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*Points in the History of the Greek, and Indo-Scythian Kings in Bactria, Cabul, and India, as illustrated by decyphering the ancient legends on their coins. By CHRISTIAN LASSEN, Bonn, 1838.*¹

With Mithra, it appears, was connected a very peculiar polytheism, which had utterly departed from the spirit of the unfigured worship of light, as taught by the original and true Magi; it also appears, that Mithra himself was considered in this worship as the solar god, Helios, as the *Sol Invictus* of the Roman inscriptions of later periods, and that a number of deified beings are grouped around him, produced by the same combination of the religious elements of Asia Minor and of Iran. This religion was more congenial to the Parthians than the purer form of Magism. When under Arsaces VI, they conquered the sanctuary in Elymais, where the goddess Nanea was adored, and when they appropriated to themselves its treasures, they may have probably admitted the worship of this goddess under the name there used.* The Indo-Scythians, when in the time of Arsaces VII, and VIII, about the year 130 B.C. they roamed and plundered throughout the Parthian empire, found this worship already established, and a horde of the same people maintaining themselves for some ages in a remote corner of the Parthian empire, made it as entirely their own,

¹ Continued from p. 378. vol. ix.

* Strabo XVI. p. 744. Vaillant Arsac. imp. p. 41.

as if it had originated with them. It must have been the same horde of this people of Nomades, which was ruled by the dynasty bearing the name *Kanerki*, as the coins of the *Kanerkis* alone, not those of Kadphises and Azes, exhibit the gods of this system.

Without as yet undertaking to determine chronologically the era of the *Kanerkis* and *Oærkis*, I shall now content myself with collecting facts from the fragments of the language upon the coins, to apply them hereafter to history. Now as to this, Mr. Mueller has pointed out, with great minuteness and perfect correctness, as appears to me, two principal elements, included in the system of gods upon the *Kanerki* coins; deified beings, according to the doctrine of Ahuramazda, of Ormuzd; and, secondly, those taken from the religious belief of the countries of Asia Minor, viz. of Mithra, of Nanaia, and of the Persian Diana. This supposition is countenanced by the names of gods, which, as far as their interpretation is corroborated, are not derived from the countries of India, but from those of Iran.

I shall review the names of these gods, with regard to their derivation, and in effecting this, it will be my principal object to ascertain, whether Indian names be discovered among them, as the consequence of this would be, that the Pantheon of the Indo-Scythians received some additions on the banks of the Indus.

My whole task is here so beautifully prepared by Messrs. Prinsep* and Mueller, that I cannot do better than present their inquiries in a form, which assimilates with those of my own.

The gods are the following—

I. Mithra. A figure in the dress of the east, with flowing robe, the head surrounded with a circular nimbus of pointed rays, extending the right arm, and supporting the left on the hip, or leaning on a spear. M. 229.

Upon the coins, on the face of which *Kanerki* is styled βασιλεύς, we observe ΗΑΙΟΣ; and ΜΙΘΡΟ where he is styled PAO-KANHPKI; ΜΙΙΡΟ appears exclusively to be-

* Especially iv. p. 629, &c.

long to those coins where the name is already corrupted to OOHPI. Mueller p. 236.

The original form in Zend is *Mithra*, to which the $\text{M}\theta\rho\iota$ of the names of the Cappadocian months corresponds: hence is produced *Mihir* in Pazend, and *Mihir* (مهیر) in modern Persia, which forms are connected with the Cappadocian forms $\text{M}\eta\rho\alpha\nu$ (pronounced *Müran*) and $\text{M}\nu\alpha\rho$ in a more corrupted form. In the same manner $\text{MI}\theta\text{PO}$ upon the *Kanerki* coins is transformed into MIIPO , which latter must probably be pronounced *Mihiro*. (v. Mueller at the same place.)

I beg only to add, that *Mitra*, though in Sanscrit likewise denoting *Sun*, is merely one name of the sun among many others, nor is it distinguished in a way, that it can have given rise to this peculiar name of the supreme *Helios*. *Mihira* also denotes *sun* in Sanscrit, and though this cannot be corruptly altered from *Mitra*, yet it is to be derived from a Sanscrit root, as grammatists do. But it must depend wholly upon the fact being carefully ascertained, that *Mihira* was not only used in modern writings, but also in the Vedas to denote *sun*, whether we can approve of this derivation, or we have to bring back this word, together with the worship of the Indo-Scythians to India, after its corruption in the countries of Iran from *Mithra* to *Mihira*.

II. MAO, the moon. A youth in the dress of the East, similar to the dress of Phrygia, with flowing robe, a kind of turban on the head, with a large half moon behind his shoulders, such as the *Deus Lunus* bears upon coins of Asia Minor, the situation in the whole, the same with *Mithras*. (v. Mueller at the same place.)

Mao is the nominative of the Zend form of *mās*, the word indeed is likewise Sanscrit, as it is a common word of all the Asian languages, denoting the moon as a measure for time; the root is *mā*, (measure) but the Sanscrit nominative is *mās*. The forms $\text{M}\alpha\nu$, $\text{M}\eta\nu$, are only various off-shoots of the same root. The genitive MANAO , shortly to be alluded to, which presupposes the root MAN , appears to warrant, that the lunar god in the form he is possessed of upon our coins, was received from the West. But here may likewise be admitted the interpreta-

tion, that MANAO is to express the Zend genetive *máonhó*. In this case *a* would have been substituted for *h*, which letter could not be expressed in the Greek language, while *áo*, the *o* of which, together with the succeeding *nh*, takes its origin in the *s* of an older form, probably was no real diphthong; but both *o* and *nh* together seem to express the nasal pronunciation, which precedes *h* in this position; the vowel *á*, as that of the root, was therefore alone expressed in the Greek orthography.

III. MANAO BAFO, obviously a deified being, related to *Mao*; a large moon-like sickle therefore also appears with him behind the shoulders; he has four arms, leaning one arm on the hip, and holding symbols, not to be made out, with the three others; he is in a kind of Turkish dress, with large trowsers, seated on a spacious throne. (v. Mueller at the same place, p. 236.)

Mr. Prinsep has explained BAFO by *baga* (Sanskrit) *splendour*; the word besides denotes, *beauty, glory, omnipotence*; and *Bhagavat*, is a name of Vishnu, as also a frequent epithet of gods. At the same time it belongs to the Zend, and even to the old Persian language, and on carefully examining the meaning of the word in them, it becomes evident, how this peculiar god of the moon is to be understood upon the coins. The four arms perhaps intimate Indian influence.

IV. *Anaitis*, NANAIA, NANA, strangely also called NANA PAO, a female figure, dressed in long folded drapery, having a nimbus without rays, and a tiara with flowing ribands, with the right hand holding a branch, or something similar. (v. Mueller at the same place.)*

The Persian *Artemis* has been long ago recognised in this goddess, the worship of whom Artaxerxes Mnemon endeavoured to spread over all Persia, especially in Bactria, and it agrees with this supposition, that this *Artemis*, as Mr. Raoul Rochette has proved it, appears upon the Agathokles-coins as *Artemis Hecate*, bearing a torch, and triple-formed according to the phases of the moon. The word could hardly have originated in Iran, and certainly not in India; it is a goddess of the moon, and the grammatical form of the word is likewise feminine;

* As. Trans. pl. III. No. 4 pl. XXXVI. No. 4.

so that the form PAO, by her name, seems to violate the rules of grammar.

V. *Athro*, AΘPO, an old man, bearded, clothed in a tunic, with a wide flowing robe, with the extended right hand (at least on many coins) holding a wreath tied to a long riband. The upper part of the figure is surrounded with flames, which leave no doubt, that here a genius of fire is represented, (v. Mueller at the same place). To Mr. Prinsep is due the well founded interpretation by the Zend word *âtars*. The word is here, however, transmitted from the grave declination *âtars* into the soft one *ath(a)ra*, (nom. *athro*.) In Sanscrit (of the classic period at least) the word *atar* does not occur in the sense of fire.

VI. OKPO. This word is usually met with near a figure, the lower parts of the person clothed, with the left hand holding a trident, and the right a snare, and leaning upon an Indian ox. Mr. Mueller reminds us, that this position is similar to the figure of Siva and his bullock, Nandi, upon the Kadphises-coins. The same name is also ascribed to a figure, standing opposite to Nana,* having a light dress, four arms, and the head surrounded with a circular nimbus without rays.

Mr. Prinsep has proposed to explain the word by *arka* (in Sanscrit, sun); this is doubtful, for besides that we have already the sun, Mr. Mueller very properly reminds us, that all the names, authentically explained, lead to a Zendic origin; likewise the reason for the transposition of *rk* to *kr* is not evident.

On the other hand, a Zendic word suited to explain OKPO, is not known, and besides another interpretation is indeed more to the point.

The bullock, and the four arms, call to mind the Indian god Siva, whose name is *Ugra*; the snare? (*pâza*) also is an attribute of Siva. By the coin, As. T. iv. pl. LI. No. 1, it is still more evident, that Siva is meant, when he as *pazupati*, (lord of animals) has an antelope with him. As to what Siva had to do with this system, might be differently interpreted; leaving, however, this to the mythologists, we would only add, that

whenever Nana and Okro are placed opposite each to the other, Siva in this case is obviously interpreted in accordance with the character of Mithra. For the Indian Siva has the goddess of the moon only as attributive, usually as a moon-formed sickle over his head, here however stands the goddess of the moon opposite to him as his wife, as if she were understood as metamorphosed into *Parvati*; moreover *Parvati* has a strong resemblance to *Artemis Hecate*.

If this interpretation of *Okro* be well founded, (and so it must be by reason of the bullock *Nandi* upon the coins, *As. Trans.* iv. Pl. xxxviii. Nos. 4, 5), an Indian element appears in the Indo-Scythian system, which as first annexed to it on the banks of the Indus, may be easily explained by the Siva worship upon the Kadphises-coins.

Okro as well as *Athro* point out a dialect, which allowed of no literal absorptions, and therefore was different from that exhibited in the native legends.

VII. OΔO, *As. Trans.* iv. pl. LI. No. 8. A youth with a crown of glory, and a light dress. He holds, as he runs, with both hands, a wide robe, which falling down in large circular lines, surrounds the figure. (Mueller.)

The name is as yet unexplained; I propose *vādō*, that is *wind*, (in Zend *vātō*, modern Persian *bād*.) In Sanscrit too, *vātā* denotes *wind*, the god of *wind*; more frequently *vāju*. As the wind is also worshipped in Zendavesta, and even as *vāto*, this element of Scythian mythology perhaps belongs to Iran. The running alludes to the wind.—

VIII. (A)PΔHΘPO, upon the coins of *Kodes*, *As. Trans.* iv. pl. xxv. No. 11, 12, and No. 13. A standing male figure, dressed in a tunic, with the left hand leaning on a spear, the right resting on the hip, flames round the shoulders, and a head dress, the shape of it indistinct. It stands there PΔHOPOY-MAKAP, which Mr. Prinsep* has acutely altered into APΔH-

* Mr. Prinsep observes, v. p. 643, that some copper coins have OPOOK-PO, and would explain it by *Arjarka*. According to my supposition, OPOOKPO approaches more nearly Indian orthography. The figure on a very late and rough kind of coins, (see iv. Pl. L.) which is called the

ΘΡΟΥ ΜΑΚΑΡΟΣ. In the same relation as ΑΡΔΗΘΡΟ stands to ΑΕΡΟ, does.

IX. ΑΡΔΟΚΡΟ or ΑΡΔΟΧΡΟ to ΟΚΡΟ. The figure of *Ordokro*, however, is very different from that of *Okro*. *Ardokro* is represented as a woman in long clothes, with a circular nimbus round the head, in the hands a large cornucopia, usually in a standing position, but upon later coins, sitting on a throne, with the feet on a footstool (Mueller). Mr. Prinsep has proposed the very plausible interpretation, that the prefixed syllable ΑΡΔ might be the old Persian *Arta* in Artaxerxes, the Pehlivee *ard* in Ardeschir, and in similar names, therefore *venerable, holy*. But I strongly hesitate. How can *Ardokro* have a male termination, and female figuré? Then *Okro*, substituted for *arka ardokro* would be a vox hybrida. The same will be objected to *Okro*, when substituted for *Ugra*. This is true, but if *Okro* was properly explained by *Ugra*, another interpretation is offered for *Ardokro*.

Ard perhaps in this case may be *Ardha*, meaning *half*,* and *Ordokro* is *ardhógró* (*half Siva*, i. e. an androgyne Siva) as on the other hand *Ardhanari*, (*half wife*), is likewise used for this figure. This interpretation satisfactorily vindicates the masculine termination with the figure of a goddess.

X. ΟΡΛΑΓΝΟ upon a coin of Kanerki, As. Trans. iv. Pl. xxxvi. No. 1, Mr. Prinsep takes it for ΟΡΔΑΓΝΟ, from *ard*, and the Indian *agni*, fire. The coin however, has no symbols of fire,† and the legend gives □ instead of N. I shall wait for further information.

XI. ΦΑΡΟ. At the same place, No. 2, an ΟΟΗΡΚΙ coin, with the robe, so frequently thrown behind with those figures, extending the right hand, the left supported on a long sceptre, the head surrounded with a circular nimbus, very little different from Mithra himself. (Mueller.)

dancer, refers also to Siva. There seems to be ΟΡΟΟΚΡΟ too, p. 633. We find there the complete type of Siva Tripurântaka, the wild dance of Siva, who throws the giant to the ground. I refer to the representation by Tod, Trans. of the R. A. S. 5 p. 11.

* It is a figure armed with spear, sword, helmet and a wide robe.

† V. p. 640.

Mr. Prinsep (V. p. 640) calls to mind the names Phraates, Phraortes, Phradates. The last especially is very plausible; and Phradates might have been substituted for Pharadates; *Phara* would be the root for *Pharô*. Mithradates and so many similar names are sufficiently known. Phradates cannot, however, be but *fradata*, i. e. *fra* cannot be but the preposition. I observe in Vendidad Sade, p. 50, a word *frá* (bjô), which I, however, cannot explain.

XII. Mr. Mueller cites, according to the coin, vol. III. Pl. xxv. No. 11, another figure of a god, with the legend ΟΔΥΟΒΟΥΛΑΚΑΝΑ; ΑΛΑ, however is uncertain. I have no conjecture to offer whatever, (there is only one figure) on this word.

The word ΜΑΘΡΟ which Mr. Prinsep reads on some coins of the king, riding on an elephant (As. Trans. III. p. 453), perhaps is merely ΜΙΘΡΟ, a little indistinct. Thus we at least observe it upon one of those coins; vol. v. Pl. LI. No. 10.

I have thus subjected these coins also, as briefly as I possibly could do it, to an examination, with reference to their philological facts. The principal historical fact, resulting from them, that the dynasty of *Kanerki*, *Oerki*, and of their successors, however they may have been styled, were addicted to a doctrine, which compounded of those of Mithra and Zoroaster, cannot have been produced, but while they passed through Bactria to India, scarcely required so long a discussion; while on the other hand, as regards the religious history, a discussion, much more exact, must be undertaken, as many new materials will probably be supplied from additional coins. The mixture of an Indian ingredient in that mythology derived from the Siva worship, may be considered as a discovery, casually obtained. All these names of gods do not properly fix the native country of the coins, but bear the impress of those countries, in which the gods originated, and not necessarily or exclusively of the region in which the *Kanerkis* reigned, when the coins were struck by their order. The words of Zend, however, incidentally concur in proving the Zend to have been at that period the language of Bactria, and perhaps of Sogdiana. In a strict sense, PAONANOPAO and KOPANO alone hint at the native country of the coins.

§ 10.

Indian, Sassanian, and very ancient Indian coins.

We shall here only touch these two classes as the limits of our investigations, and as points, important for the critical illustration of the former classes. A discovery made by Mr. Prinsep, and fully examined in some treatises by him, gives both classes an unexpected reference to the foregoing ones, viz. that the Indian coins the most ancient we know, have been gradually formed partly out of the different species of *Kanerki*-coins, partly out of a peculiar class of Sassanian coins.*

This latter class scarcely belongs to the well known dynasty of Persia Proper, whose coins are brought for sale to the bazars of Cabool, (As. T. VI. 289) but a collateral line of the Sassanides must have reigned in Cabul, and Beghram. At the latter place a great number of their coins have been discovered. We observe two different kinds of them, to which a numerous division of coins is joined, already entirely Indian, and having Nagari legends. These latter shall here no further occupy us.

The first class of the coins, strictly Sassanian, consists of small copper coins, which may be divided, after the head-dresses of their images, into three series: one coin of this class is published by Mr. Masson, As. Trans. v. Pl. XLIV. The legend appears hardly to be in the characters, known to us. The second class is chiefly distinguished by a buffaloe's head being over the head of the king, and by the fire altar on the reverse. Their legends seem to be a species of the character of Sassanian Pehlvi as found on coins, but they also have Dêvanagari letters, As. Trans. VI. Pl. XIV. No. 3. No. 5. No. 6.

By this they are connected with a class, a few specimens of which are only discovered, two however in Manikyâla. They have the complete Sassanian type, with the exception of the fire altar, with legends in Dêvanagari, As. Trans. III. Pl. XXI. p. 439. VI. p. 288. A third of these coins from Cabul (As. Trans. III. Pl. XXV. No. 6.) distinctly has the name श्रीवासुदेव

* See chiefly As. Trans. IV. p. 621, p. 668, then vol. VI. p. 288. Specimens of Hindoo coins, descended from the Parthian type, though the word Parthian in the title for Sassanian is not at its right place.

Crivásudéva. Beside these legends, others in Pehlvi characters are met with. A *Vásudéva* is related by Muhammedan history to have been king of Kanôja about the year 330 A. D.* As. Trans. iv. p. 348. He is perhaps the same, the coin of whom is extant.

The first of the classes, above mentioned, of the Sassanian coins from Kabulistan, proves, that a separate (independent) dynasty of Sassan's descendants have reigned there; the second class proves, that a dynasty, related to it, or the very same, ruled in India itself, perhaps in the Punjaub, (to this conclusion we are led by the Indian characters), and that it gradually gave way to purely Indian kings; for *Vásudéva* is certainly an Indian name.

Mirkhond indeed mentions the name of the king of Cabul, as of an independent king, the daughter of whom the Sassanian Hurmuz, the son of Narsis, married.†

I think I still can point out a new kind of coins, referring to this division.

Swinton has already published a coin, which he calls Parthian†. The head of a king is there surrounded by the following Greek legend: BACI-ΑΕΩΝ ΜΕΓΑC-MO—, while the reverse has a Roman Victoria, and a legend in a character, which Swinton proposed to read, (upon the pretended similarity with Palmyrian letters), *Padeshane mo(nesh)*, *Emperor Monneses*.

On this *Monneses* as on *Adinnigaüs* of which affinitive coins exist, Ekhel arrived at the result, that they were not Parthian,

* This Vasudêva perhaps belonged to the dynasty of the Guptas' which we find in India at the same period with the Sassanides, of whose names Mr. Prinsep has already restored a long series according to coins, As. Trans. v. p. 536. One of them, Kandragupta, boasts in the second inscription of the column at Allahabad, not long ago authentically published, of having received tributes from the kings of Persia and Saka. The expressions, are very remarkable: **देवपुत्रषाहिषाहानषाहि** the Shah, born of God, the Shah of Shahs, "which exactly is the title of the Sassanides upon coins and in inscriptions. The proper name is unfortunately not mentioned. As. Trans. VI. p. 977.

† De Sacy *Antiquités de la Perse*, p. 304.

‡ Philosophical Transactions---vol. L. Pl. I. p. 115. Pl. IV. No. 1, another coin, which Swinton ascribes to Balogases III. (vol. XLIX. p. 593) has also relics of native writing, which however is not distinctly Cabulian.

but Bactrian kings.* Mionnet† arranges both under the kings *Characene*, upon the authority of Visconti, who first properly determined the coins of this dynasty, (*I-conographie Grecque*. III. p. 260.—)

I do not find, that among the acknowledged coins of *Monneses* any one is noted, which has upon the reverse a legend in native characters, and supposing that the *Mo* upon the coin of Swinton supplies *Monneses*, this king was not a native of Charax, but of Cabul; for the native legend obviously is the following:

𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭 viz. in the ordinary form: 𐭠𐭡𐭢𐭣𐭤𐭥𐭦𐭧𐭨𐭩𐭪𐭫𐭬𐭭
(ma)hârâjô rajâ dirâjô.

The writing has exactly the strokes of the characters in the topes.

The head dress of this coin has rather a Parthian than a Sassanian character, as the victory also intimates a Parthian, not a Sassanian dynasty. The form of the native character leads us, however, almost down to the age of the Sassanides, and certainly fixes Cabul as the native country of this coin. The existence of the Greek writing must, however, prevent us from assigning this coin to a later period than that, when the Greek writing was still in use upon the coins in the countries of Iran. The Sassanides never made use of it, as far as I know, upon coins, and with the Kanerki-coins it fell into disuse in the border countries of India. The coin may therefore belong to the period, preceding that of the Sassanides.

The type of the coins, which are proved to refer to *Monneses*, is at variance with the supposition, that the king on the coin under discussion was likewise called *Monneses*. But as there now is none in the series, known to us, of the Parthian kings, whose name commences with *Mo*, we must be allowed to suppose, as of the Sassanides, so of the Arsakides, a collateral line to have established an independent kingdom on the borders of Kabulistan. But it would be proper to examine, whether the initials preserved of the name rather be not *ME*, in this case *Meherdates* might be conjectured.

To return to the real subject of this chapter, I conclude these remarks by observing, that no Indian imitation of the Kadphises-

* Doctr. num. vel. I. vol. III. p. 560. † Tome VIII. p. 510. v. p. 706.

coins has been hitherto discovered, and I shall pass to the inferences, which may be drawn from the facts adduced.

First.—The Kanerki dynasty have probably survived all the others of foreign origin, the Sassanides excepted, as the coins of the Kanerkis gradually slide into Indian types, which those of the others do not do.

Secondly.—The use of the native writing did not cease with the downfall of the Kadphises-dynasty, for it still exists upon the topes, which entomb coins of the Sassanides as well as of the Kadphises and Kanerkis, and the coins of the Sassanides are besides of a more recent form, than that used on the coins of Agathokles. The Pehlvi character under the Sassanides, the Cabulian character on the topes, and a form of Devanagari, much approaching to the modern one, existed therefore together.

Thirdly.—The types of the Kanerki-coins in the last period exhibit such a great decay of the art of die-cutting, such a total oblivion of all traditional remembrances of Greek art, that we must on this account too conclude this dynasty to be the last before the Sassanides. The Sassanides moreover had a different religion. But we will not dilate too much on these inferences; for as we do not know when the Sassanides settled themselves in Western India, we cannot dispute that the Kanerkis may have held out for a long time in the time of the Sassanides. Nor is it allowed from the extinction of the native characters upon the coins of the Kanerkis and from its existence upon those of Kadaphes and Yndopherres to infer, that the Kanerkis universally and simultaneously supplanted the Kadphises; for the very existence of the coins upon the topes in which Kanerki-coins were already enclosed, proves that the writing, as being on the coins, was still in use when Kanerki-coins were already struck; it proves, that there were other reasons for not adopting that writing upon the coins, than the abrogation of the characters of the legends; or, in other words, the coins do not prove that the Kadphises did not reign at the same time with the first Kanerkis. But it will be more advisable to look, if possible, for some other, and better defined leading points, before attempting to set ourselves right in this field of speculation, confused as it is by the entanglement of dynasties.

SECOND PART.

APPLICATIONS TO HISTORY.

§ 11.

Geographical points.

We shall now attempt to comprehend under some more general points of view, the materials, obtained by independent inquiries, applied detachedly to different subjects. We may perhaps thus succeed in grouping these single facts into classes properly arranged.

The results of inquiry separate themselves into three divisions, being partly paleographic, and partly philological, from both which (together with those results which the numismatological examination will bring to light,) follows a series of historic facts, which are to be compared, and brought in accordance with the relics of written history, as it is delivered to us.

From the foregoing inquiry it has been proved on the whole, I hope, that the countries, in eliciting the history of which these ancient coins have unexpectedly presented themselves as a novel documentary agency, are the western boundaries of India. The coins have been partly discovered in western India, especially in the Pentapotamia (Punjab); and the tope of Manikyâla, between the Indus and Hydaspes, has been a principal source of discovery, though it is only one among a number of many others on a smaller scale. They are also found in the regions along the Cabul river, and especially abound in the ruins of Beghram, a town at the southern entrance into the Indian Caucasus, situated if not exactly, yet very near the place where Alexandria ad Caucasum was founded. The whole course of that river, however, is a mine of coins, and the favourite site of the topes, coeval with and witnesses to that period, to which the more recent half of our coins, not the work of Grecian kings, appertains.

Though the more eastern part of India, viz. the (Doab) land between the Zataдру and the Jumna, as well as the country

in the north from the Indian Caucasus to Bactria, have contributed their share to our treasures, yet they have done it only in an inferior degree. Now if the place of discovery of coins may point out the country in which they originated, the Punjab and Cabul are those to which must belong most of the names of kings we have examined. It is therefore necessary more carefully to set ourselves right as to the geography of those countries, with regard to Bactria, and the other parts of India; as regards this, however, the general information possessed by our readers will be amply sufficient. Without extending this geographical inquiry, we may be allowed to refer, as respects the Punjab, to a published work* which indeed now requires some additions and corrections, but which yet contains all the statements, most important for our purpose.

With respect, however, to the countries about the Cabul river, where the boundaries of Indian and Iranian alphabets, languages and nationalities are fixed, where the empires to which we have to assign their situations come most closely in contact, and seem to intrude one into the place of the other, and for the historic geography of which, there exist sources not fully consulted, as regards those countries, it appears to be indispensable to attempt an independent inquiry, with constant reference to the points to be discussed in the course of examination.

As between Hindoostan and the highlands of Tibet, the Himaleh, properly so called, is the wall of separation, so is the western continuation of the same mountain range between the countries belonging to the Cabul river, and Bactria; we may call this western branch the Indian Caucasus or Hindookush. From the point where the Indus, descending from the north, breaks through this mountain range, it first runs, in about the 36th degree of north latitude to the meridian of Jelalabad; the western extremity of this circle nearly coincides with the 35th degree of north latitude. These mountains, viewed from the southern low land, appear as a four-fold chain of towering hills,†

* De Pentapotamia Indica commentatio geographica atque historica Bonae, 1827, 4to.

† Elphinstone; an account of Cabul, 1. p. 154, 2 edit.

the fourth range of which being the highest and nearest to the north, rises to the level of eternal snow, and has at least partly an elevation of 20,000 feet.

The Hindookush further runs from the point presently described north-west, and then westerly, till it attains its culmination with the elevated snow-clad peak, properly denominated the Hindookush. The mountains then gradually descend towards the west, assuming the name Paropamisus, while the higher range, turning south-south-westerly, rises again in the Kohi-Baba to a high snowy pinnacle. Under this lies on the westerly side, Bamian, which therefore has a northerly, and not a southerly aspect; this is the discovery of Burnes.

These vast mountains, the Indian Caucasus in its most extensive sense, from the point where the Indus breaks through them to Kohi-Baba, are the northern boundaries of the countries about the Cabul river. From this range most of the tributaries of the Cabul river descend, and it gives the country its prominent features. We must look at it therefore more closely.

At the western extremities of the first eastern half of the Indian Caucasus, a high tract of mountains stretches down to the valley of the Cabul river; its southern extremity from the northern bank is thrown opposite to the Sefidkoh, (in the Afghan language *Spin Gur*), viz. white mountain, which rises on the southern bank of the river; this southern end is the high snow-clad peak, Kooner, very nearly approaching to the valley of the river. We shall give this transversal range the name of the Kanda mountains, as they were probably called so in the native language. The whole of the countries about the Cabul river are equally divided by them into regions of a totally different character, the western and the eastern.

To know the boundaries of the country under consideration, we must recur to Kohi-Baba. Hence extends a high mountain tract to the south. Though no remarkable hills, no table heights are mentioned as existing among them, yet the course of the streams would range in their favour. The Hilmund and Urghandab descend from that mountain tract in a southern direction to the basin of the Zareh; the Ghazna runs to the north-eastward, and joins the Cabul river, flowing to the south-east.

South-westward from Cabul there lie, says Sultan Baber,* “high snow-clad mountains, and the Bamian chain (Kohi-Baba) is of an extreme height. The Hirmand, the Sind,† the Doghabeh, Kunduz, and the Balkh rivers all rise at their culminating point, and one may, it is said, drink on the same day out of the sources of all these rivers.”

These are the natural boundaries of the countries of Cabul towards the west.

From the mountain tract, where Ghuznee lies southward from Cabul, to the Sefidkoh, already mentioned (which may be considered as the most northern branch of the Soliman mountains, running from the north towards south) the valley of the Cabul river is bordered by hills of less height and regularity. They have not received any general name, and but small bodies of water descend from them, as they are not high enough to be continually covered with snow.

Looking again from the Sefidkoh to the point projected from the south of the Kanda mountains, we have the confines of the western half of the Cabul countries. The valley of the river, narrowed by the Sefidkoh and Kooner, appears like a rocky gate between the west and the east of the countries through which the river forces its way, over cliffs and down rapids, while from Sefidkoh the Tira chain of hills with its ramifications extend eastward to the Indus. The Salt range, so called, commencing from the same point, runs south-easterly to the same river, which it reaches at Karabag; the Tira chain rises from the south over the plains of the Cabul river.

Thus once more gaining the Indus, we have compassed the whole extent of the Cabul countries, the natural boundary of which towards the east is that river.

The eastern half of these lands may be called the *inner*, as may the western half, the *outer* boundary of India.

To understand the articulation of each of these boundaries, we must look closely to the rivers.

The Cabul river, which rises at the foot of the Kohi-Baba,

* Memoir, p. 282, German translation.

† A mistake, it must be the Cabul or Gurbund.

and flowing from Cabul itself in an almost direct line, joins the Indus at Attok, forms as it were the bond, by which the various members of these geographical divisions are connected, and proves their inseparable unity.

From the high mountains to the north there run to the banks of the Cabul river many streams in valleys, which are either distinct, or connected with others; each of these valleys, and in an inferior degree every lateral valley, forms an independent district, and hence the various articulation of the whole.

With regard to these valleys, which we may call after their rivers, all the streams having the most easterly direction, viz. the Abbasin, which is furthest east, and the Burrindu, a little more to the west, flow into the upper Indus, without passing through the Cabul districts.

More to the westward rises the Sewad, into the valley of which river that of the Penjkora runs from the west, while the Bagar from the south-eastern declivity of the Kanda mountains joins the united Sewad and Penjkora. In the latest map (by Burnes) the three united rivers are called Lundye, which having passed Hashnagara, disembogues into the Cabul river.

These valleys, descending in terraces towards the Cabul and the Indus, form the mountainous country of the inner boundary of India to the north-west, to which also belongs the plain above the valleys on the banks of the river, as well as the northern declivity of the Tira chain, before mentioned. The plain is hot low land, already manifesting a completely Indian character; Peshawur in the centre of this plain is situated on the banks of the river. The northern districts of the valley form landscapes of a genuinely Alpine character, adorned with all the luxuriant beauty of an almost tropical mountainous country.

Now between the eastern and western extent of the Cabul country lie the Kanda mountains, with the Sefidkoh as a high wall of separation, which cannot be appropriated to either of those districts. From the central point, whence it spreads its ramifications from the Hindookush to the southward, another high elevation rises, the Belut Tag, which extends in a circle NNE. to the Mustag, and forms, as it were, the northern

continuation of the Kanda range. From its north-eastern extremity, the Pushtigur, a river now called Kameh, gushes rapidly southwards, and forces its way between the Cooner and the Nurgil in the Cabul valley, almost opposite to Jelalabad. This narrow and almost impervious valley rises like a long narrow gateway in a northerly direction; on the north side of the Pushtigur the streams already flow to the Oxus. The Kameh valley supplies but few accommodations for trade with the north, it is little accessible from the plain of the Cabul, it is rather a wall of separation to the east and the west of the whole country along the river.

From Sefidkoh a valley of a more remarkable character opens towards the Cabul river, through which the Soorkhrood, ("the red river,") flows.

Just above Jelalabad the boundaries between the warm low lands of the east and the cooler highlands of the west, are determined; this little district of Jelalabad, on the river Cabul and the stream formed by the junction of the Kameh, and the Soorkhrood, may represent the gate, through which we enter the outer boundary of India.

Cabul lies almost in the centre of this boundary, and is at least in a historical and political point of view, the centre point of the country. In her neighbourhood, rivers from the south-west, the west, the north-west, and north, unite and form the main river, which has obtained the name of the town. At this spot open the great roads, whether for peace or for war, between Iran and Turan on the one hand, and India on the other. It is a situation, possessed of inexhaustible importance, as the whole history of southern Asia bears witness.

Looking on the subject in detail, we find, that due west of the lofty Kanda hills the valley Laghman splits in two, forming those of Alishung and Alingar, and opens towards the Cabul river.* More to the west the valley of Tugow is traversed by a river of the same name, not far below the disemboguing of the Panjhir. This river takes three united streams into the Cabul, namely, itself, the Gurbend, and the Nijrow, which

* Elphinstone, i. 160.

all descend from the Hindookush through main valleys, in which less considerable bodies of water are discharged, giving the effect of the fibrous ramification of a leaf in the union of these river valleys. The Gurbend, rising in the western range of the Hindookush, flows to the east, the Panjhir from north to south, while the Nijrow runs in a south-western direction to the Panjhir. The district above the junction of the three rivers, is called the Kohistan, the highlands of Cabul, a beautiful Alpine country, not inferior to that of Penjkora, and Sewad; below that junction extends the more even country of Kohdâman, "the skirt of the mountain." This variously ramified system of valleys includes the passes, which lead from Cabul itself, over lofty mountains, winding upwards through their vallies in ramifications, either westward to Bamian under the Kohi-Baba, or northward over the Hindookush, to Anderab and the higher north. There are altogether seven or eight of these.

On the southern boundaries of this western district of the Cabul we have to notice the valley of the river Ghuznee, which leads to the town of the same name, lying on a rugged lofty plain, the ancient seat of mighty dominion.

Hence goes the road to the river valleys of Arachosia, descending westwards.

The plain of the valley of the Cabul river, before it reaches Jelalabad, lies in a situation so much higher than that of the lower part of the river, that the climate and products are as different from those of Peshawur, as are the products of loftily placed, and frigid Ghuznee from those of Cabul.

As the outer boundary constitutes a gradual approach to the inner one, so is it in relation to India Proper. Cabul is one of the most beautiful countries of the earth, highly praised by Sultan Baber, warm in virtue of its southern situation, and the protection afforded by the mountains towards the north, and at the same time cooled by reason of its height above the level of the sea.

This very succinct description was specially intended to call to mind the following facts.

First.—That the natural road to India passes through western Cabulistan, whether we start from Arachosia, from Aria (Herat)

or from Bactria, the paths from the northern and central Asia meet here.

Secondly.—It must not be forgotten, that the districts along the Cabul river have a tendency to resolve themselves into petty states and national confederacies, unless a vigorous hand sways the sceptre within the country. The country does not only separate of itself into an eastern and western division, but, if circumstances admit, small independent powers may also maintain themselves in the valleys of the northern tributaries of the main river.

Thirdly.—Supposing such a state of disorganization to exist, each of these little river districts will seek its centre in itself, and create a petty capital. However, in a state of well ordered union, some particular *foci* of intercourse along the course of the main-road, about Peshawur for the eastern, and Cabul for the western Cabulistan, about Jelalabad, as connecting both, and for intercourse with the Kameli valley—lastly, at the entrance into the passes over the Hindookush on the low lands round Beghram—must be formed by the course of mercantile transactions. To render these relations quite evident, we may observe, that the peculiar architectural monuments of the country, the topes, are grouped round those four mentioned places, Peshawur in the valleys of the Khyher tribes, Jelalabad at Soorkhrood, Cabul itself, and, lastly, at the foot of the mountain district round Beghram.

For the purpose of giving a sketch of the historical accounts of this country, we may commence by observing, that we must especially keep in view accounts as to the national characteristics of those people, without engaging in a complete inquiry into the passages of the ancient geographers. We shall postpone this to a more appropriate place, and besides, there exists already a very thorough examination of this kind by an eminent geographer.*

By way of beginning on a safe basis, let us commence with the celebrated campaign of Alexander the Great.

* Carl Ritter on the campaign of Alexander the Great in the Indian Caucasus (in den Abhandlungen der Berliner Akademie aus dem Jahre 1829, p. 137.

He found these countries and nations in the state which must have subsisted during the whole period of the Achæmenides; for the rulers of Persepolis in succession to Darius, the son of Hystapes, who perhaps exercised a more vigorous authority, were satisfied with the attendance of those remote nations in the field on occasion of war, and with the regular transmission of tribute; they did not disturb the tribes in their national customs and institutions, though they were powerful enough to check the violent inroads of the northern hordes, by whose success national characteristics were afterwards introduced of a totally novel description.

When Alexander after having subdued the Drangges and Arachosians set out for Bactria, he encountered Indians for the first time.* Having subdued them, he reaches the Caucasus, and founded on its skirt an Alexandria, the situation of which, according to the careful examinations of Mr. Masson† must be most probably looked for near Beghrum. The Indians above alluded to, therefore inhabited the highlands, which separate the streams running to the Helmund, from the tributaries of the Cabul. Strabo calls those Indians *Paropamisades*, but uses, however, as he often does, an inaccurate term, when he states, that Alexander had penetrated to the Arachosians through the Paropamisades.‡ The passage through their country during the winter season was difficult on account of the large quantity of snow, but it abounded with villages and provisions for the army; it was the highland westwards from Cabul.

We again follow the march of Alexander, when returning to Alexandria Sub-Caucaso; he passes for the second time the Hindookush, the town is then called Alexandria in Paropamisades.§ These Indians are therefore obviously called by a peculiar name, after the mountains, viz. *Paropamisades*, the name of the mountains which they inhabited, being partly Paropamisus,|| and partly Caucasus, and this name refers as well to

* Arr. III. 28.

† As. T. V. p. 6.

‡ XV. Ariana, § 10.

§ Arr. IV. 22.

|| Ptolemy, more correctly Paropanisus; it is the country under the mountains, which are called Nishada in Indian geography. That the ancient geographers have assigned the name Paropamisus to the more western mountains, we are not authorized to assert.---(Lassen).

the Hindookush itself, as to its western parts, the Kohi-Baba, and the lower ranges, which at the lower extremity are protended in a westerly direction. With the nation of the Paropamisades must also be numbered those tribes, who inhabit the valleys of the northern tributaries of the Cabul, viz. of the Gurbend, Panjhir, and Nijrow; for Alexander formed a new Satrapy out of the districts of the Paropamisades, καὶ τῆς ἄλλης (χώρας) ἐς τε ἐς τὸν Κωφῆνα ποταμόν.

The Kophen is not,* however, as might be supposed, the Panjhir, with his two tributaries; for by starting from Alexandria, which upon this conjecture must have been situated at the Kophen, one would come first to this river; we find in Pliny† “ab ea (Alexandria) ad flumen Copheta, et oppidum Indorum *Peucolaitin* CCXXVII.” Whether Peucolaitis be correct here or not, is besides the question. The Kophen evidently is, we may say, the united Ghuznee and Cabul rivers, and the Satrapy of the Paropamisades is the Kohistan and Kohdâman of the present geography of Cabul, together with the mountain vallies on their western boundaries.

Till the arrival of Alexander at the river Choes, Arrian (vi. 23) uses no other names (than the above); the intermediate country to the junction of the Choes (Kameh) with the Cabul, may therefore have belonged to the Satrapy, not the nation, of the Paropamisades‡

Strabo§ says, “near the Indus there are the Paropamisades, above the heads of whom the mountain Paropamisus rises.”

* Arr. III. 22.

† VI. 21.

‡ Pliny vi. 23 ‘says’ “some authors still add to India the four Satrapies, Gedrosia, Arachosia, the Arians, and Paropamisades ‘*ultimo fine Cophete fluvio.*’ Is now the Cophen the extreme boundary of India with the addition of the Paropamisades? This would be an absurdity, and Pliny does not recollect, that by adding the Paropamisades to India, he had not to describe the remotest confines of the Paropamisades toward India, but the boundary of India, enlarged towards the west. He has therefore retained the boundary of the Alexandrian Satrapy of the Paropamisades, at the same time, that he gave it up. The reason upon which those Satrapies were numbered with India, was an incidental one, viz. the cession to Sandrokyptos by Seleucus Nicator.

§ I. 1. § 9.

But this is to be accounted for by a similar negligence in expression, as Strabo sometimes commits. He afterwards places certain nations between the Paropamisades and the Indus, which is a striking contradiction.

The following statement of Strabo is of far greater importance. According to him, the whole country between the Indian sea in the south, and the Paropamisus and Caucasus on the north, the Indus in the east, and Karmania, Persia, and Media, in the west, is an immense square, which is comprehended under the general name Ariana; the Gedrosians, Arachosians, Paropamisades, in parallel layers are superimposed one on another. We shall not dispute the systematical regularity of this view, in favour of which the Paropamisades are extended to the Indus. Ptolemy, who distributes in the same manner these nations, and defines more correctly the boundaries of the Paropamisades, does not use this general term, nor does it occur in the narratives of Macedonian history. Strabo has perhaps got it from the Parthian and Bactrian history by Apollodoros. It is true, he says, that the name Ariana likewise refers to some tribes of the Persians, Medians, Sogdians, and Bactrians, or, (to apply here our modern information), that the ancient name Aarja of the Arians, was also in use with the four principal nations of Iran, before mentioned, but he distinctly places between the western and northern Iran, properly thus called, and India lying more to east, his Ariana, as a separate division, as an intermediate country, in which the nationalities balanced towards both directions, and were neither of a marked Indian nor Iranian character. But more precise investigation would certainly prove, that his view, concerning such a great nation, forming a transition from the Persians to the Indians, though it generally were correct, still must be defined more correctly in various points of view, to bear upon the different divisions (of that nation). The Airjana of the Zenda vesta, however like in name, has certainly nothing in common with this Ariana, though many be pleased to confound them.

We must hereafter take up again the thread of the inquiry, what situation between the Indians and Persians the Paropamisades have occupied?

Alexander, after having arrived at the Choes (Kameh) commences on the western bank of the Indus his campaign against the nations, in a strict sense here already called Indians. They are named by Arrian, numbering them from west to east, Aspasians, Guraeans, and Assacanian.* Strabo styles the nation, first mentioned, Hippasians,† and substitutes for the Choes the Choaspes, which disembogues into the Kophen (§ 26) and which therefore cannot be, as it occurs upon the map of Ritter, another name for the Kophen. Aspa is a term, alluding to Persian language, and Choaspes (qazpa) is the river of beautiful horses; there is an evident reference of the nation with the river, and they probably lived on its banks. Alexander first marched upwards to the Choes. Πορευθεὶς δὲ παρὰ τὸν Χόην καλούμενον ποταμὸν ὀρεινὴν τε ὁδὸν καὶ τραχεῖαν, καὶ τοῦτον διαβὰς χαλεπῶς, κ. τ. λ.

He reduces there two towns, the second of which was called Andaka, he then proceeds to the river Euaspla. Καὶ διελθὼν πολλὴν ὁδὸν, δευτεραίῳς ἀφίκετο πρὸς τὴν πόλιν.

After having taken this, he passes over the mountains to Arigaeum.‡ I must here depart in view from our celebrated geographer Mr. Ritter, who thinks Euaspla to be the Choes, but it must be a tributary of the Choes which Alexander touched, διελθὼν πολλὴν ὁδὸν, and after he had already marched into the Kameh valley. Alexander first left this lateral valley of the Kameh, when setting out for Arigaeum. Euaspla now is partly a Greek translation, (εὐ-ασπλα perhaps εὐ-ασπης) of Choaspes (hu,gut Sanscrit svhazpa-quzpa).

Strabo by taking the Choaspes for the Choes, viz. the smaller for the larger river, has confounded both of them, while Arrian separately mentions them. Choaspes, or Euaspla, probably is the Seesha upon Mr. Elphinstone's map.§

* IV. 23.

† XV. § 17. § 27.

‡ Arr. IV. 24.

§ I am under the necessity here also to contradict the excellent historian of Alexander the Great, Mr. Droysen. The point at issue is especially the following passage of Strabo, § 26. Ἀλέξανδρος—ἐπέστρεψεν—καὶ τὸν Κώφην ποταμὸν καὶ τὸν Χοάσπην, ὅς ἐῖς τὸν

The Aspasians probably are the same with the Azvazeelas of the ancient Indian geography, who are neighbours of the Kambôjas, fighting on horseback.

The Guraans are the inhabitants of the valley at the river Guraeus, (Arr. iv, 25) the Penjkora, into the valley of which Alexander descended near Arigaeum; the Guraeus, according to Arrian, retains this name to its disemboguing into the Cabul, while Ptolemy only mentions the Sewad, the Suastus. Gorydale was probably situated just at its very disemboguing.

The Assacianians in their towns Massaga and Ora had their abode between the Guraeus and the Indus.* From them there are distinguished the Astacanians, who are no doubt justly taken for the subjects of Astes, the ruler of Peucala, the district on both banks of the Indus, above the disemboguing of the Kopphen.† According to Ptolemy, the Gandarians inhabit this country, who live therefore on the northern bank of the Kopphen, while Strabo relates of the Gandaritis, living on both bank of the Kopphen; he follows here the native view, according to which Gandhara denotes the country from Peshawur to the Indus.

The Massianians, mentioned by Strabo, are too insignificant to be inquired into, and we shall leave it to others to deal with

Κώφην ἐμβάλλει ποταμὸν, καὶ κατὰ Πληγήριον πόλιν ῥυεῖς παρὰ Γωρνδάλην πόλιν, καὶ διεξὼν τὴν τε Βανδοβηνὴν καὶ τὴν Γανδαρίτιν.

Mr. Droysen says (history of Alex. p. 376) we need only to omit καὶ preceding Πληγήριον to find every thing correct. Now if the sense, not the syntax alone must be in accordance, ὅς and ῥυεῖς and διεξὼν would be referred in this case to the Choaspes, disemboguing upon this conjecture through the Gandaritis into the Indus, i. e. the Choaspes would do what is due to the Kopphen, which Strabo himself mentions as the main river. There consequently is also a confusion in the views of Strabo, an unprecise understanding of the reports, and the words following ἐμβάλλει ποταμὸν are indeed to be referred to the Kopphen. Hence it follows, that Plegerium, Gorydale are towns, and that the districts Bandoebene and Gandaritis to the disemboguing of the Kopphen into the Indus successively are met with.

* Arr. IV. 26 Ind. I. Strabo, XV. § 27.

† Droysen, history of Alex. p. 374.

the fabulous Nysaeans. We have mentioned every important fact for our purpose by adding, that Alexander did not touch the southern bank of the Kophen, since he was informed, that it was not fertile, as the beautiful land of Alps in the north.* We therefore meet between the Paropamisades and the Indus a series of independent, warlike mountaineers, under their chieftains, separated into many smaller tribes, rich in flocks and herds; they are always called Indians, though no mention is made of either institutions characteristic of India, nor of Brahmins. This is doubtless correct; for they were inhabitants of the Indian frontier, not exactly regulated by Indian customs, outcasts of the soldier caste, as Indians might term them.

As mention has been made of the Gandarians, we are allowed to combine these accounts with those, long before given by Herodotus. The Gandarians he mentions, must be the same with those now under consideration. Darius also enumerates them among the number of the nations under his sway. Herodotus does not mention the general name of the Paropamisades, but only single tribes, among whom the Sattagydes perhaps belong to the Paropamisades of a later period.†

In these accounts the national discrepancies between eastern and western Cabulistan appears most evident, the western half belonging to the Paropamisades, the eastern to India.

Ptolemy's accounts are contemporaneous with a period referred to in some of the coins; the additional value his information thus acquires, is enhanced by constant perspecuity of detail and expression.

He considers the (Κῶας) Koas (VII. I.) as the main river, as it indeed has a much longer course than the Cabul or Cophen, which stream is not mentioned at all. Hence according to him, the Koas disembogues into the Indus, and the Suatus (in the Indian language Zubhavastu, the Sewad) into the Koas. He knows the sources of the latter in the mountains of the high north, which he calls the mountains of the Komedes.

Under the sources at the Koas there live the Lambagæ,

* Strabo, XV. 26.

† Old Persian arrow-headed inscriptions, p. 110.

(Lampatæ) whose hilly district extends to the mountains of the Komedes, hence up the valley of the Kameh and into the Caucasus over the Pengkora or Guræus, a country of wide extent, while in Sanscrit *Lampaka* denotes only the inhabitants of the valley Lamghan, on the western side of the Kameh valley. Ptolemy's authority gives us evidence, that the restriction of that name (Lamghan) is of a more modern date, and that the derivation of the name from Lamech, according to Sultan Baber's conjecture, is a wholly vicious etymology. The peculiar Lamghani language, prevailing in this mountain valley, together with the language of the inhabitants of the higher Kameh valley and the Indian Caucasus, viz. of the Kafirs, thus called, is an Indian dialect, and the separation of the Lamghanians and Kafirs into different nations, as is the case in Cabul, is not founded upon any original national discrepancy.

According to Ptolemy, the Koas is the most western river of India, however, he does not consider it as the boundary river, but in his opinion, the confines between India and the country of the Paropamisades are the meridian, in which the sources of the Oxus* are included; he places them one degree more to the west than the Koas, and therefore according to him, a district westward from the Koas still belongs to India, which as it appears, is inhabited by the Lambagæ, *he* (Ptolemy) mentions; for the present Lamghan is included in the very same district to which Ptolemy has assigned no other inhabitants. These national boundaries almost completely coincide with the political demarcation between the Satrapies of Alexander, viz. between that of the Paropamisades and of the Upper India.

Looking to eastern Cabulistan, we observe, the district Suastene lies, according to Ptolemy, at the sources of the Suastus; it is therefore the same that Elphinstone has called Upper Sewad.

He places the situation of the country Goryaea (Γωρναῖα) below the Lambagæ and Suastene. This is the district between the Bagur and the Pengkora, and on the other hand, that to the Lundye, in the north of the Cabul river to the mountains, which include the Kameh from the east.

The name Goryaea is therefore used by Ptolemy, as it appears in a more comprehensive sense, than the name of the nation of the Guræi is ordinarily used by the ancient (geographers). The evident carefulness with which Ptolemy always proceeds in the applications of names, renders it not improbable, that he had good reasons in using that name in a more comprehensive sense. Goryaea (perhaps Gârjâ in the language of that country,*) seems indeed to point to an expression like *Kohdaman* in our days, (west from the Kandar hills,) the mountain district below the highest ranges of the snow-clad peaks.

Ptolemy places between the Suastus and the Indus, the Gandarians, to whom the town Proklais (Poklais) is appropriated; here then the Gandarians are restricted to the northern bank of the Cabul river; for Proklais is the *Peukela* of the ancients, and the *Pushkalu* of the Indian geography; according to Strabo the Kophen still runs through the Gandaritis. The dominion of the Gandarians, as it appears, is therefore restricted to the northern mountain valleys, and Ptolemy is instrumental himself in explaining this. In describing the extent of the Indo-Scythian empire, he observes, that its main part is situated along both banks of the Indus, but he also places Indo-Scythian towns just in the country along the lower part of the Cabul river, i. e. just in the old seats of the Gandarians. Among them Artoartar appears even to be the capital or the royal camp of the horde. Artoartar is there a foreign word, and arta reminds one rather of the Parthian than of Scythian elements of the language, it is the *ârta* of the names Artaxerxes, Ardeshir, &c. But since upon Scythian coins *Athro* and *Ardethro*, consequently Persian names of Gods are observed, it is no wonder, that we meet likewise in their towns with elements of Iran.† Artoartar having

* From *gari*, in Sanscrit *giri*, mountain, Zend *gairi*; there consequently perhaps *gari*. The modern word in Affghanian language is *gur*, but hence it does not follow, that Goryaea must be derived from that language.

† Artoartar 121° 30', 31° 15'. Nagara 121° 30', 32° 30'. Divertigium Coae ad Paropamisades 121° 30', 33° 0' the juncture of the Cabul and Kameh, Nagora and Artoartar were therefore situated in the same meridian. But since the course of the Indus as well as the country bordering to it is displaced much too far towards east and west, the real situation of those three places cannot be looked for in the same meridian.

been ascertained as a town of the Scythians in the country of the lower part of the Cabul river, gives evidence, that the Gandarians had at that period no longer the dominion in their native country, and it offers itself the conjecture, that an independent power of the Gandarians maintained itself only round Peukela. Of the towns which Ptolemy still mentions as lying in these Indian confines, *Νάγαρα ἢ καὶ Διονυσόπολις* is especially notable, *Nagara*, a genuine Indian word, is the name of the town, it therefore probably had with the Indians the meaning of the principal town of this district. The term "*town of Dionysos*," cannot be attributed but to the Greeks, who full of the expedition of Bacchus to India, thought, that they recognised even in this town the vestiges of his energies. If Ptolemy has correctly fixed its situation, it would lie opposite to the mouth of the Kameh. As, however, the whole country is assigned another position in geography, this only is certain in the statement of Ptolemy, that *Nagara* was situated on the southern bank of the Cabul river, not far from Jelalabad. Below *Nagara* there follow four more towns, assigned to Indo-Scythia, *Nagara* itself is not numbered among them.

When we now turn to Ptolemy's description of western Cabulistan, this is, in his opinion, the country of the Paropamisades.* The eastern boundaries toward outer India are already defined; Jelalabad and Lamghan belong to India. Bactria borders it in the north, the natural confines there being the Hindookush; in the south is Arachosia, from which the Paropamisades are separated by mountains under the name *Παριῆται*. Mr. Ritter asserts, probably correctly, that they begin at Sefidkoh, and extend to the table land of Ghuznee†. It is indeed a very general term, *parvata*, mountain, and the name recurs for the northern tribe of the Arachosians, viz. *Παργυνῆται*; as it is the same name, so it is undoubtedly the same nation, the mountaineers on the right bank of the Ghuznee river. Ptolemy supposed these mountains to extend from east to west, while they run south-west. He fancies, as does Strabo on the authority of

* VI. 18.

† See the map to the essay above mentioned.

Eratosthenes, that the country is a square, and on this supposition he defines the place of the different nations. The *Cabolitæ* live according to him, towards the north, namely in the valleys of the Gurbend and Panjhir; the town *Ortospana* or *Cabura* in the centre of the country (which is certainly identical with the modern Cabul), supplies their name. The *Aristophyli*, a Greek name, have their abode in a westerly direction towards Aria; we must look for them below the Kohi-Baba. Further down are seated the *Pabii*, or after another reading, the *Parsii*; the *Ambautæ*, lastly, live in the east, and are therefore the neighbours of the Lamghani; this name has likewise turned out useless, and we cannot draw any conclusion from it.

It is strange, that Ptolemy does not mention the tributaries of the Cabul river in this part of Cabulistan, it is said, at least he does not; however, the river $\Gamma\omega\beta\rho\upsilon\alpha\varsigma$, into which another disembogues, is probably the Gurbend, and the nameless river is perhaps the Cabul itself, the Kophen of old, of which there is made no mention.

Of the names of towns, Cabura has been already touched on; traces of the town of Alexander have disappeared at this place, and it is difficult to look for it under another name among those that Ptolemy noticed; but we shall still make especial mention of one among them. *Artoartar* recurs here, as it were to show us the old seats of the Scythians, from which they started for the Indus. It lies in a north westerly direction from Kabura, and just in the mountains, where the passes lead from the sources of the Cabul river to Bamian.

In the statement of Ptolemy it appears much more distinctly than in those of the Macedonian period, that eastern and western Cabulistan were likewise, in a national point of view, separated into two equal divisions, almost consentaneous with their natural boundaries; the western half belonged to that nation, whose separate tribes are comprehended under the general name of the Paropamisades; the eastern is numbered with the Indians; but the plain at the lower part of the river is now under the power of the Indo-Scythians, and perhaps only Nagara, and the Gandarians give the appearance of independent Indian nationality. It is a great loss, that Ptolemy does not furnish us with

any information on the political statutes of western Cabulistan. Upon these, as well as upon the national relations, a much clearer light is thrown by those accounts, of which we shall presently make use. We allude to the reports, given by the Buddhist Chinese travellers, which are contained in Abel Rémusat's posthumous work, so important to Indian geography.*

There are three such reports, the most ancient of which is, however, alone completely published. First, the report of Fahian, who in the year 400 A. D. made a pilgrimage to India.† Secondly, that of Soung Yuntse and Hoeiseng, who in the beginning of the sixth century were in India.‡ Lastly, the report of Hiuan Thsang, who came to India about the year 632 A. D.

As these travellers were Buddhists, and pilgrims to the holy places of their belief, this religious purpose is the prevailing subject in their narrations, and they omit many things on which it would have been of far greater importance to us to obtain information. But their narratives, as given by eye-witnesses, are invaluable, and we observe no trace of their having told what was not reported to them, or what they did not see, or imagine they saw. Their estimates of distances, when referring to extended measurements are indistinct and exaggerated; fortunately they mention so often places easily to be recognised, that we can generally set ourselves right without difficulty in the countries they have enumerated.

But if I now venture to differ in many instances, as to the interpretation of these Chinese narratives, from Abel Rémusat and his two successors, Klaproth and Landresse, as well as from our celebrated geographer Mr. Ritter, I have briefly (for the detailed exposition of this Chino-Indian geography must be reserved for another place) to vindicate my deviations.

Rémusat first of all displaces and alters the situation of all the countries of western India by supposing, that the Indian district *Gandhara* is the same with Kandahar (in Sanscrit *Kandadhara*.) Then, according to him, Fahian visits *Tchuchachilo* or *Tant-*

* Foe Koueki, &c.

† p. 3.

‡ p. 354.

chachilo, which the Chinese, however, only described by hearsay ; and as Fahian does not mention his having gone there over the Indus from the west, Rémusat inferred, that the situation of *Tantchachilo* must be on the western bank ; but it is in fact the *Taxila*, (*Takshazila* of the Indians) between the Indus and Hydaspes, Rémusat was therefore under the necessity of displacing all the districts of the western Indian frontier, too far westerly. We may again trace, in the report of Hoeisang, the confusion of Gandhara with Candahar, and the river *Southeou*, which is but the Indus (with Fahian *Sintheou*) is removed to Kandahar. I undertake to prove these assertions good in all their details, if their correctness be disputed.

I shall now state, with regard to every province, the grounds on which its situation is fixed.

Udjána, *Outchang*, as it is called by the Chinese, according to Prâcrit form, *Ujjanâ*, (garden, park) is bordered by the Indus to the east ;* the name of the capital is *Mengholi*, (*Mangala*, the fortunate), and it is probably situated in the valley of the river *Souphofasoutou*, as they call it, or of the Zubhavastoo, the Sewad, or Suastus. Fahian mentions, however, not by name two other rivers, probably the Penjkora and the Bagur. If Rémusat says, the country was bordered by Kandahar in the west,† we observe in the original *Kiantolo*, (or *Gandhara*). This has lead Mr. Ritter to the mistake of looking for Udjuna near Jelalabad,‡ but it lies to the northward from Gandhara, therefore on the northern side of the Cabul river.§

We extract the following notices from the copious collection of Chinese narratives published by Rémusat. The name is said to have been given to the country by an Indian king of old, who was wont to hunt here ; it was his park. Baber also used often to hunt here. Besides the Buddhists, there also resided here a number of Brahmins, who were much devoted to astrological inquiries.

Buddha is said not to have advanced beyond this. Here we still find Indian letters, and an Indian dialect, but no where

* Fahian, p. 45. Hiuan Thsang, p. 380.

† p. 46.

‡ Erdkunde, VII. p. 289.

§ Fock, p. 379.

beyond, i. e. towards the north, where the Caucasus forms the natural separation of the nations. But Hiuan Thsang says, perhaps with more exactitude of definition, that the language is Indian, though with some deviations.* Udjana is many times mentioned as an independent empire in the Chinese annals between the years 400 and 642 A. D.

The little principality Suhoto was situated southward from Udjana, and westward from Kiantola beyond the river (Cabul), if one set out for it from Kiantolo.† This definition is not very clear, it must be about the country within the angle between the Kameh and Cabul, on the northern bank of the latter. Kiantolo (or *Kianthovei*) is bounded on the east by the Indus,‡ the situation of the town *Foe-chafou* was in a westerly direction, three journeys distant from the Indus. (p. 355) Westward thence was the town Kiantolo, with the tower of the king Kanishka; the same town is also called *Poulouchapoulo*, or *Foe-Leoucha*, and *Paloucha* seems to be a variety of *Foechafou*. North-eastward fifty *lis* beyond the Cabul river (about fifteen miles), there was situated the town *Pousecolofati*, (or Pushkalavati,) the district attached to the town Peukela on the Indus, the *Peukelaotis* of ancient writers. The way from the Indus to Peshawur is estimated to be three journeys;§ in this town we recognise *Foechafou*. This country is the Gandaritis of the ancients, the Ghandhâra of the Indians, and the concurrent testimony of the Chinese narratives does not at all admit its being extended to Kandahar. The capital, the name of which in the Indian language perhaps was Purushapura, *town of men, town of heroes*, is to be looked for, it appears, in the country of Khybers. There is yet a tope, larger and more splendid than that of Manikyâla,|| but this can hardly be the tower of the king Kanishka.

Fahian describes *Foeloucha* as an independent little state; the repetition of the same account proves, that the capital of Kiantolo, and the town *Purushapura*, and this *Foeloucha* of the

* Foek, p. 381.

† Foek K, p. 64. p. 45 p. 355.

‡ p. 379.

§ Tieffenthaler's description of Hindoostan, 1. p. 46.

|| As. Trans. III. 327. VI. 879.

three reports is the very same with the tower of the king Kanishka. From Peshawur Fabian takes a southern, Hoeiseng a western direction to arrive there, the Khyber mountains lying to the southwest.

This *Parushapura* is the same from which Remusat, and after him Mr. Ritter* presumed to infer, that the *Belujens*, strong favourers of Buddhism, already existed at that time. I do not know whether Mr. Ritter will allow these *Belujens* of his to break a lance with a critic.

From *Foeloucha* westward to Nakie there are sixteen jôanas.† Hiuan Tshang corrects the name into *Nakoloho*; he comes there from *Lampho* (or Lamghan), crossing the great river (Cabul); it is a distance of 100 lis, or a little more than five geographical miles.‡ *Nakoloho* lies in the valley of the river *Hilo*, where is the town *Hilo*, one (geographical) mile from the capital, a mountain is also called *Hilo*, at which *Nakoloho* was situated. (p. 86. p. 54)

This river on the southern bank of the Cabul cannot well be any other than the Soorkhrood, and we must look for the town *Nakoloho* at the mouth of the stream in Balabagh. The Buddhist monuments, said to be near *Hilo*, are the same with those on the Soorkhrood from Balabagh to Jelalabad. (As. Trans. III, p. 325.)

I imagine I recognise the river *Hilo* in the Hir of the map of Danville and Rennel, at the junction of which with the Nilab, the town Nagar is situated; there is another river Hir to be accounted for in accordance with the different narratives, which is said to pass the town of Cabul. If now *Hilo* certainly be the same name, *Nakoloho* also appears with the same certainty a Chinese paraphrase for Nagara.

This leads us again to the Nagara of Ptolemy, which must needs be situated westward from the curvature of the Kameh river. On account of the evident similarity of the names the conjecture will be admitted, that his Nagara is not different

* Erd. VII. 678.

† p. 85.

‡ p. 378. The five miles must be taken from the places nearest to both banks of the river.

from *Nakoloho*. His Artoartar might coincide with the town *Purushapura* of the Chinese.

For *Hilo*, and *Nakoloho*, (or *Hir* and *Nagara*) another supposition is possible, the correctness of which I have not the means of deciding. If namely, near Jelalabad, itself a tributary, falls into the Cabul, this might be the *Hir*, and *Nagar*, the Jelalabad. The name *Hir*, however, leads of itself to Soorkhrood, (red river) if the Indian word *hiranga*, (gold, of gold colour,) may be recognised in it, and besides in the latest descriptions of Cabulistan, no other notable river, except the Soorkhab* is made mention of. The architectural monuments of this country, moreover, which commence at Balabagh, are not discovered more than four (English) miles beyond Jelalabad. This circumstance, and the fact, that Lamghan lies' opposite, led me look for a higher situation for *Nagara* on the banks of the river.

Nakie in the year 628 A. D. was subjected to the empire *Kiapiche* on the Gurbend, it was the boundary district between Gandhara and western Cabulistan.† The town was sixteen jôanas from the capital of Gandhara, or, according to others, fifty *lis* in a northerly direction from it beyond the mountains,‡ a distance of about twenty-five geographical miles. Tieffenthaler estimates the way from Soorkhab to Jelalabad at twenty-four (miles), and the capital of Ghandara cannot have had a much more eastern situation than Jelalabad. The way of Hiuan Thsang, however, did not follow the river, but the mountains, and it was perhaps more direct.

To set ourselves right in western Cabulistan as to the Chinese description of it, we must begin with Hiuan Thsang's entrance from the north into the country. He goes from Bamian eastward over the snow-clad mountains, then over those, called *The Black*, and is then in the country *Kiapiche*; the distance is not stated, but as the town *Kiapiche* lies in the mountains, he has probably gone from Bamian only into the next valley towards

* M. Court conjectures "sur les marches d'Alexandre," p. 28. elle (la rivière de Kabool) entre alors dans la vallée de Djelalabad, où elle recoit d'abord les eaux du Sourkhab, qui vient du Canton de Peiver et ensuite celles de Khonar (Kameh) qui a sa source dans le Kaferistan.

† Foc K. p. 89.

‡ Hiuan, Thsang, p. 379.

the east. A pass leads in an easterly direction from Bamian into the valley of Gurbend; Baber has described this defile;* I refer for this to the corrected map of Burnes; 200 *lis* northwards from the capital are the great snowy mountains, consequently the Hindookush, so that the capital cannot be Cabul, as Mr. Landresse conjectures. It was then (632 A. D.) an independent empire, to which some neighbouring states were subjected; we know this fact already of *Nakie*. There was the old kingdom of the Gandharas, not perhaps of the Indians, but of the Scythians, who took afterwards possession of the Indian Gandhara. Ptolemy places the town *Kapisa* two and a half degrees northwards from *Kabura*, and Pliny,† (VI. 25. 23) when numbering the countries westward from the Indus says, “a proximis Indo gentibus montana Capissene habuit Capissam urbem, quam diruit Cyrus.”

It is undoubtedly the *Kiapiche* of the Chinese.

This district is indeed not assigned to India, but most of the places, the names of which are cited by Hiuan Thsang, can be derived from Sanscrit roots. The mountain *Pilosolo*, (steady as an elephant,) is *Pîlusâra*; but this very term for “elephant” is considered as introduced into Sanscrit from another language.‡ I only mention this in order to recall the affinity observable here to an Indian language.

When Hiuan Thsang leaving India‡ on his pilgrimage had passed the snowy mountains, he descended for three journeys, and reached *Anthalofo*. This is *Anderab* in the Balkh. On the southern side, the furthest state is *Foelichisatangna* (sthâna), where a Turkish family reigned in the capital *Houphina*. Baber made his first march to Cabul from the north through the Panjhir or Kip-chak pass. He says, “On arriving at the top of the pass, Upiân or Hupiân, I saw for the first time the star Soheil.§” This statement determines *Houphina*.

Below *Houphina* the empire *Thsaokiutho* was situated, attached in Hiuan Thsang's time to *Kiapiche*; it was therefore in the valley of the Panjhir river. Here also he makes mention of

* Denkwuerdigk, p. 363.

† De pentap. Ind. p. 84.

‡ p. 395.

§ p. 262.

Stoopas, which are attributed to the Indian king Azôka. The language and characters of this country were, however, not Indian.

The empire *Falanou*, extending to the south, the situation of which most probably is on the river Baran, still belonged at that period to the kingdom *Kiapiche*. This river is often mentioned by Mr. Masson, and still more often by Sultan Baber, and it is strange enough, neither of them distinctly say what river is meant by it. According to Baber, the Alingâr disembogues into the Baran, (p. 276) and in travelling from Cabul to Lamghan on crossing the Baran, § two distinct plains are met with between the foot of the mountains of Gurbend, and the river Baran. Baber goes down along the Baran to collect the revenues of Nijrow. Hence Baran must be the name for the united Gurbend and Panjhir rivers downwards to Lamghan. The statement of *Falanou* lying below *Thsaokiutho*, leads to the same conclusion, and it is a much more certain one than the distances, incorrectly stated regarding this immediate region, enable us to arrive at; but I cannot enter here upon an examination of them. It must be the Kohdâman, perhaps the Verena of the Vendidad. Beghram probably was, in *Falanou*, separated, as it appears from Cabul. *Falanou*, though a province of *Kiapiche*, is still assigned to India, however little similarity the language is said to have had to Indian idioms. It seems to have been here, that the distinctive separation of the spoken languages occurred.

In his journey to India Hiuan Thsang, does not describe *Falanou* and *Thsaokiutho*, but he goes from *Kiapiche* to *Lampho*. This seems to intimate, that he travelled a mid-course, between the two above mentioned countries, upon the great road, which, leaving *Thsaokiutho* to the left and *Falanou* to the right, leads over Beghram to Nijrow, Lamghan and Jelalabad. (Masson As. T. V. p. 2.)

Lampho is 600 *lis* distant, in an easterly direction, from *Kiapiche*, the way goes through difficult defiles, it was on the confines of India, and lies about the Black mountains; they are perhaps the Siahkoh on the river Kohdâman. (Masson I. 1. p. 2)

Lampho certainly cannot be any thing other than Lamghan,

the *Lambagae* of Ptolemy, and *Lampaka* of the Indians. In Lamghan there exists an old monument, which the Mahomedans pretend to be the tomb* of Lamech, which Hiuan Thsang has perhaps visited.

The aboriginal inhabitants of Lamghan still use an Indian dialect, and it is indeed a very remarkable fact, that the national contrasts of these people may be so distinctly traced throughout various periods. Ptolemy and Hiuan Thsang entirely agree as to this point, and we have besides the language in corroboration. Hiuan Thsang did not meet with an Indian language, or Indian characters in the valleys beyond the Kohdâman; within the Kohdâman itself, there was a certain similarity with the Indian dialects. On the southern bank of the Cabul river, *Nakoloho* is the extreme boundary of India.

I hope, that I have thus illustrated, though very briefly, the Chinese description of those districts; there remains yet another province, which the Buddhist pilgrims, whose reports are available to us, have not visited, to complete this sketch, and it must be still touched upon. This is *Kipin*; which Fahian mentions, without having advanced so far himself;† it is entirely passed over by Hiuan Thsang. It often occurs in the Chinese annals, from soon after the year 142 B. C. down to 758 A. D.;‡ it was then united with Udjana. In the beginning of the sixth century it waged war with Gandhara on a boundary question, (Foe K. p. 354) and must therefore have possessed those districts which were adjacent on the west to Gandhara. As the Chinese annals make mention of relations between *Kipin* and the Chinese court, but not of any with *Kiapiche*, we might be disposed to presume, that *Kipin* was the diplomatic expression, used to indicate the complete empire *Kiapiche*. But the statements point to another situation. *Kipin* was 700 *lis* to the southward from Bamian, and not eastward as was *Kiapiche*, and 400 *lis* eastwards from *Sieiju* with its capital *Husina*, which must be Ghuznee. These accounts lead one indeed to the neighbourhood of Cabul, which is not mentioned in the reports of the

* Baber, p. 276. Hence he derives the name.

† p. 22.

‡ The reports are collected by Ritter VII. 682.

pilgrims. Here Renusat's assertion, that Kipin is the country about the Kophen, seems to be confirmed. It is the tract about the sources of the river rising to the west of Cabul. It accords with this opinion (to maintain) that Kipin was distinguished as a state independent of *Kiapiche* and *Falanou*, and is made mention of as a principality which bordered upon Gandhara, and at one time also possessed Udjana. It is likewise in accordance with the above, to distinguish *Kaofu*, by which term Cabul seems to be meant, from Kipin. The one fact is evident, that the word *Kipin* was used in a more extended and more limited sense at different periods. The Chinese accounts most forcibly support what has been already theoretically inferred from the geographical character of the Cabul districts, that they easily split into a number of petty principalities, subjected to constant alteration as regarded their extent and their boundaries.

§ 12.

The Alphabetical Characters.

We will first inquire as to the letters (used in these countries), and this inquiry will be made rather with reference to their historical than their paleographic relations, as these latter cannot be explained in all their bearings (consequences), without our having obtained the perfect alphabet.

First, as to their nature. The letters are partly independent, i. e. such as occupy their own places in the line, and partly dependent, such as the vowel signs; the former are either consonants, or diphthongs, or vowels commencing a syllable.

Let me first put together the consonants, as we have discovered them.

Gutturals:	ᳵ. k; ᳶ. kh; ᳷. h.
Palatals:	᳹. (j.)
Dentals:	ᳺ. t. ᳻. d; ᳼. dh.
Labials:	᳽. p. ᳾. f. (doubtful.)
Semivowels:	᳿. j. ᳾. r. ᳾. l; ᳾. v.
Sibilants:	᳾. z; ᳾. sh. ᳾. s.
Nasals:	᳾. m. ᳾. n.
Finally, an uncertain sign f.	

This table shows still some deficiencies ; we still want a G, which I do not venture to adopt from a doubtful word of the inscriptions on the topes ; we may also look for a K (क) and a B, perhaps also the softer sibilants. This conjecture is founded upon the observation, that the characters still undecyphered, are as many as there are letters deficient ; and under this idea, the supposition that the language may not have possessed convertible, and intermediate consonants, is nullified.

The diphthong ष, ô, is always written within the line ; the same must also be supposed as to the analagous १ ê, though this is not yet determined with certainty.

The vowels १, a, and ५, u, appear to be ascertained, but ३, i, is not so certain. If the remark, that in the alphabet the different quantities of the vowels are not expressed, be well founded, we have not to look for further additions to the vowels ; but we must still wait the decision, as to whether the sign, supposed to denote the shortened u, can be proved correct, or whether ५ was ordinarily substituted for u. Upon this supposition, however, would arise a contradiction as well in the mode of representing the vowels between i, and u, as also in the manner of expressing the Greek v. The vowels i, and originally, as is most probable, u, also, when following consonants, are denoted by peculiar marks, annexed to the consonants ; the i by a small perpendicular line drawn through the consonant from above ; u, if our supposition be correct, by a small angular projection to the right.

A, is considered as inherent in the consonant, and a consonant which presents no other sign of a vowel, must ordinarily have the vowel a, whether long or short. A, being excluded from a final consonant, is not denoted by any sign. There seems to exist a diacritical point for distinguishing similar characters ; a small cross line annexed below is a mere calligraphic ornament.

(To be continued.)

Journal of a trip through Kunawur, Hungrung, and Spiti, undertaken in the year 1838, under the patronage of the Asiatic Society of Bengal, for the purpose of determining the geological formation of those districts.—By THOMAS HUTTON, Lieut., 37th Regt. N. I. Assistant Surveyor to the Agra Division.

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## PART II.

On the 15th of June, the thermometer, at sunrise, indicated 47°, at an elevation of 10,522 feet above the sea. This morning we started betimes, and once more proceeded in search of the habitations of men.

About a quarter of a mile from camp, we had to cross a torrent, whose waters were luckily at this early hour of the day, reduced by the frosts on the heights from which it came, but yet its force was such, that it required some care and exertion of strength, to enable a man to stem it safely. Seeing me make preparations to wade through it with the rest, a couple of sturdy Tartars at once came forward, and while the one stooped down and offered me his back, the other, before I could say a word, had bound me to it with his red sash, like any other load, and away they trudged into the stream, where after several awkward stumbles, caused as much by their laughter at my apparent uneasiness as from the violence of the stream, they gained the opposite bank in safety, and released me from bondage. They then gave assistance to several of the loaded people, and seemed to care little about the coldness of the stream, although its temperature was 36°, and the hour of the morning, seven.

The streams, whose waters are supplied from the melting of the snows above, are often only passable in the early hours of the day, when their sources are still bound up by the frosts of the preceding night, swelling so rapidly towards the afternoon, under the influence of the sun's rays, that neither man nor beast can stem them. I saw an instance of this in a stream at Hungo, where at four o'clock in the afternoon its breadth was upwards of twenty feet, while at seven next morning, when I crossed it, it was, though still strong and violent, barely eight feet across.

While on the subject of rivers, it may not be amiss to notice an error which Dr. Gordon has inadvertently fallen into. In his account of a voyage down the Indus to Bombay, he attributes the small quantity of water observable in the Sutledge and Garra, during the winter months, to have been occasioned by the failure of the rains in the hills, during the preceding season.

The fact is, that these rivers are not at all dependent on the rains for their supplies, but like all those which have their sources in the hills, are fed, during winter, from the snows alone; and the small quantity of water remarked by Dr. Gordon, was occasioned by the severity of the frosts in the upper hills, which had bound up their sources in ice.

The rivers of the plains are most swollen during the months of June, July, August, and September, because at that season the frosts on the snowy ranges are less severe, and the snow melts away beneath the influence of the summer heats from all the inferior elevations, supplying the rivers with abundance of water, which again gradually decrease in violence as fresh autumnal frosts and falls of snow occur.

This too is annually proved to be the fact by the rapid rise in all these rivers during the hot months, before the rainy season has commenced.

As the rivers are most swollen during the prevalence of the monsoon, it may appear to the inhabitants of the plains that the rise of the waters is to be wholly attributed to the rainy season, and that the volume of their waters diminishes as the rains gradually die away. This, however, would prove a very erroneous idea, for although undoubtedly rivers after *coming within* the influence of the monsoon, receive immense additions from the drainage of the surrounding country, yet it must be remembered that they are not at all affected by the rains through a great portion of their passage through the mountains, and especially in those regions where they take their rise.

Thus they could merely receive those additions *during the prevalence* of the monsoon, and whether the rainy season had been heavy, or the reverse, it would exercise no influence over the rivers during the winter months, or in any way affect the quantity of water at that season.

The sources of all the larger rivers from these hills are situated far beyond the influence of the periodical rains, and consequently the total failure of the monsoon could but affect them during that particular



season, and then only in those parts within its influence. Did these rivers owe their origin to the rains, the remark would have been correct enough, but as they derive their source from lakes, and are fed by snow waters till they have passed through the outer barriers of the snowy range, it must be apparent that the shallowness of their streams in winter is owing solely to the severity of the frosts above.

The volume of such rivers during winter, even many hundreds of miles from their sources, will always furnish a sure, and never-failing index to the rigour or mildness of the seasons in the mountain tracts from which they take their rise; for if the winter be mild above, the rivers will possess a more abundant supply than when the contrary is the case, and the changes too, which take place above, such as frosts and thaws, will always be marked by corresponding changes in the volume of the rivers.

An instance of this kind fell under my own observation during the passage of the Indus, in January 1839, near Shikarpore, by His Majesty Shah Shooja. During the few days occupied in crossing his troops, the river fell amazingly, so as to lay bare some sand banks which had the day previous been deeply covered with water. This was of course occasioned by severe frosts in the regions of the Himālaya through which the Indus and its various tributaries flow, and shortly after, I received letters from the hills, which stated that the winter in the higher tracts had been severe, and that much snow had fallen. The subsequent melting of this snow a little later in the spring, again caused such a rapid rise in the waters of the river, as to add greatly to the labours and anxiety of the engineers who were constructing a bridge of boats at Bukkur for the passage of the army of the Indus, for the swell of the waters was so great as to threaten the destruction of the bridge, by sweeping away the boats.

In the stream we had just waded through, a man and his pony last year in attempting to ford it at midday, were swept down by the force of the current, and hurried into the Spiti, where they were both lost in the rush of waters.

Our path from this treacherous torrent continued tolerably level, along the side of the river; one while broad and good, as it led us across the alluvial flats, and again affording scarcely room for the foot of any living creature, save the sheep and goats which had formed it.

About half way between our last encampment and the village of Larree, to which we were journeying, stands Soomra, situated on the right bank of the river, and within the district of Hungrung; it is built on one of the accumulations of alluvion so often alluded to; and in which the valley abounds.

Many of its fields are now uncultivated, and the village itself, though appearing to possess many houses, is occupied by *three* families only, each consisting of from six to eight souls. There were lately two other families residing here, but they could not rear sufficient to recompense them for their labour, and have emigrated to some other place.

Near this we fell in with a large flock of beautiful sheep from Choomoortee, which was travelling to Dunkur for grain. The sheep are driven from village to village with the wool on, and as the required quantity is cut from their backs, they are laden with the grain which is received in exchange; and which, when the fleece is all disposed of, is carried up into Chinese Tartary and sold at a profitable rate.

The wool of the Choomoortee breed is very fine, and much longer than that of the low country sheep; it is therefore in much repute, and purchased for the purpose of making birmore, sooklat, and blankets.

The wool called "pushm," from which shawls and pushmeenass (shawl stuffs) are made, is entirely obtained from a breed of goats resembling those to which the name of "Cashmere," has been applied; they are often four or five horned, and do not thrive below Pooree and Soongnum in Kunawur, both because they are unable to bear any degree of heat, and on account of the humidity of the lower climates. Their true habitat is in the higher and remoter regions of Chinese Tartary, where they attain to their greatest perfection.

The pushm is a remarkably fine wool, very silky and soft to the feel, and grows at the roots of the long hair with which the animal is clothed. It is obtained in the summer months by *shearing* the goats, in the same manner as sheep, and afterwards separated from the hair, which is not thrown away, but reserved for the purpose of making ropes, as hemp is unknown in these higher tracts. This wool is afterwards brought to the lower hills for sale, and forms one of the chief exports from Tartary. The pushmeenass, which are manufactured from it, are chiefly from Rampore and Cashmere.

The skins of this breed are also used by the Tartars as an article of dress for the winter, and form with their long hair and thick pushm, a

warm and comfortable garment, which is worn with the hair inwards, in the manner of a cloak.

A fine pushm is also obtained from the large breed of Tartar dogs, usually termed "Thibet mastiffs" (*Canis Molossus, var Thebitanus*), but it is not in sufficient quantities to form an article of commerce, although it is said to be far superior in quality to that of the goats.

Captain Herbert remarks, that, "the Government has not succeeded in introducing the shawl goat either into Hungrung or Kunawur. This as regards the former district is a mistake, for although they will not thrive in the more humid climate of Kunawur, they abound in Hungrung and in Spiti, although the breed is not reputed so good or productive of wool, as that of higher Tartar districts.

This third march at length brought us to an inhabited place, and there we halted for the day. The village of Larree is situated on the left bank of the Spiti, on a deposit of alluvial soils. It is nevertheless a poor place, and contains but *three* families, consisting of about twenty souls. There are some good flocks and herds of yáks belonging to this village, which however were all away on the heights at graze, the neighbourhood of Larree producing nothing in the shape of pasture. Here growing in the fields among the grain, were many plants of a very pretty and delicate iris, which I had observed also at Chango, in Hungrung; it forms the third species I have met with in my trip. The flowers are of a pale blue, and the petals delicately veined with a darker tint; there was also a white variety of the same, occurring in some abundance. Another very beautiful flower was also seen spreading along the ground in stony or otherwise barren places, and bearing a large white blossom; it occurs throughout Tartary, and in some of the higher parts of Kunawur, and in the former country is called "Kābrā."

On our arrival at this village the people refused to have any thing to say to us, and to our demand of grain, &c., they declared they possessed none, as in the preceding year the village had been plundered by Runjeet's troops, and the present crop was not yet ripe. This my guide declared to be a lie, as he knew they had plenty, but were fearful that we should help ourselves without giving payment for what we took.

After a long parley they were induced to bring a small quantity of flour, which they offered for sale at four seers for the rupee. This,

I at once refused to take at such a rate, as I knew they were selling it much cheaper among themselves, and I had purchased it at Chango at twelve seers.

I therefore opened my own store and supplied my people for the day, but even the knowledge that we could do without their grain failed to reduce its price. Nor was I more fortunate in obtaining a sheep for my own use; for they would not produce a fat or a healthy one, but brought me an *old ewe*, which looked like the mother of the flock, and declining to buy her, I was necessitated to take a two year old he-goat, or to go without my dinner.

Leaving Larree on the 16th of June, I continued my route towards Dunkur. A short walk, during which we had to ford two streams, brought us to the village of Tābo, which is chiefly inhabited by Lamas, who cultivate the soil, and attend also upon the takoordwara, or temple, which is a large building, and ornamented inside with a number of earthen figures of their gods, by no means badly executed. These are arranged along the walls of the principal rooms, which are also painted with many grotesque figures and flowers connected with their mythology.

Last year when the Ladak rajah was obliged to seek protection in Bussaher from Runjeet's troops, the figures in this temple were sadly mutilated. The houses of the Lamas were pulled down, and the noses and hands of the idols were cut off and thrown into the river. This outrage is generally attributed by the people to their invaders, but in reality it seems that it was perpetrated by the followers of the Ladak rajah themselves, who when deserted by their master, thought to ingratiate themselves with their conquerors, by assuming the same form of turban, and mutilating the gods of their own countrymen. If asked who defaced the images, the Lamas always accuse the "Singa," as they term the Seikhs, but when questioned as to the numbers who invaded them, all accounts agree in stating *six* or *seven* men, and the rest were the adherents of the Ladak rajah. These fellows also, finding the opportunity favourable, and knowing that the blame would be laid upon others, plundered every village in Spiti, and levied a fine of fifteen rupees on each, with a threat that they would repeat the visit. Every excess is however attributed to the Seikhs.

From Tābo we proceeded towards Pokh, or Pokhsa, by a road which



one while led us along the margin of the Spiti, and at another, up over crumbling rocks of slate which overhung the river. These heights were sometimes of a frightfully dangerous nature, the soil being so loose and crumbling, that often the pathway had slipped down altogether into the waters below, and left a gap over which we were obliged to pass by making holes for our feet, while we literally overhung the roaring torrent at a height which made one shudder to behold. I am quite sure that had I been left to myself, I should have fallen from the very care I took to avoid it, and from the mere fear lest I *should* fall; but the people about me were well used to such kind of places, and seemed to regard them no more than would a goat or a sheep, and as one gave me a hand to steady me forward, and another kept a hand at my back to reassure me, I managed to get across well enough, although I should previously have been very much inclined to say that the place was impracticable. So much however does habit hide the danger of any place, that on my return I walked along it without assistance, and without the least idea of falling, though the coolies preferred sliding down an easier part of the hill, and walking knee-deep in water.

A far more dangerous passage than this, was wading along the margin of the river Spiti, at a place where its waters had swallowed up the road. Descending gradually from the heights already mentioned, the pathway lies along the margin of the stream, at a place where the rocky mountain is too precipitous to be scaled. When the river is unswollen by the melting of the snows the road thus runs between it and the mural cliff which rises from the bank. Now, however, at this late period the waters washed against the cliff itself, and left no passage for about 200 feet, but through the stream. Taking hold of each other's clothes with one hand, and pressing the other firmly against the rock, we slowly and cautiously entered the rapid stream, groping along the bank up to our waists in water, whose temperature was any thing but hot, and whose force was such, that had any one lost his footing among the stones and fallen, he would inevitably have been carried down by the current, and most probably drowned. The distance, however, was not very great, and we reached the road again in safety, where it once more emerged from the river's bed. Luckily this cold bath occurred but a short distance from our journey's end, and hastening on we soon arrived at Pokh, where we were glad to strip off our dripping garments and warm ourselves at a blazing fire in the open air.

Pokh is a small and shabby looking village, and the houses, like all those of Hungrung and Spiti, are built partly of stone and partly of mud, or unbaked bricks, that is, of stone for the foundation, and bricks above; the walls are usually daubed over with whitewash, which, is obtained from beds of friable gypsum occurring among the clays at the lower end of the valley; the windows and doors are small, particularly the former, which are often not above eighteen inches square, and have a red frame or border. As usual there are no trees, except a few poplars and willows on the margin of a stream. There are, however some rose bushes and dwarf cedars in a glen behind the village.

Opposite Pokh, on the right bank of the river, is a large patch of cultivation, and a few houses, called "Pokh-mā-rūng," although the two are usually known under one name. The cultivation indeed belongs to the inhabitants of Pokh, and a communication is kept up by means of a joola, or number of ropes stretched across the river, on which passengers slide over. This joola had unfortunately given way just before my arrival, and two or three people who had gone over, were consequently obliged to remain on the opposite bank, for to swim the river at this season was impossible. The ropes used in the construction of this dangerous bridge, if such it can be called, are made of willow twigs twisted strongly together, and about the thickness of a man's wrist; these are sometimes four or five in number, and are fastened on either bank to an upright post driven into the ground. From these ropes a loop descends, in which the person sits, and pulls himself along. Many fruitless attempts were made to convey a new rope across the river, by fastening a stone to a long string, and endeavouring to throw it over to the other side, but not one man in the village could succeed, for the stone invariably fell into the middle of the stream. The Churriah and Tartars who were with me also tried their best, but with the same want of success. A bow and arrows were then resorted to, but they also failed to reach the bank, and the experiment was abandoned. The Mookiah of the village then said he would furnish a yāk, to whose tail one end of the rope was to be fastened, and the animal driven into the stream; if he succeeded in reaching the opposite shore, well and good; but if, as was most probable, the beast failed, and was drowned, he would abide the loss. As the yāk had to be brought from the heights where he was at graze with the herd, I did not see the experiment tried, but on my return

from Dunkur some days afterwards, the ropes were still lying at Pokh, and no joola had been conveyed across, so I conclude that the experiment had either failed, or had not been resorted to, although I forgot to make the inquiry.

On the heights, in the neighbourhood of Pokh and Larree, the wild sheep is said to abound, but there were no hunters in the villages to send in quest of them, and the only one of whom Soomra could lately boast, was now no more.

In the past winter he had described a flock upon the heights behind his village, at no great distance, and seizing his matchlock had started for the chase which was destined to be his last. Night came and passed; the day succeeded and passed also, yet no hunter returned; and at last alarmed at his prolonged absence, his son started in search of him, but all in vain. The traces of his footsteps were followed for some distance up the mountain's side, when, as if the hunter had been spirited away, or vanished into air, they suddenly ceased at a large fresh field of broken snow. Days and weeks passed on, and the wonderful occurrence of his disappearance had begun to be forgotten, when a sudden thaw took place, and his body was seen yet fresh among the snows, at the place where his footsteps had ceased. His gun was in his hand, and he lay as if in a sound sleep; but he was cold and stiff, for he "slept the sleep that knows no waking;" he had been smothered in an avalanche from the heights above him. His were the fields at Soomra which we saw lying barren and neglected, for his family had left the place.

Of birds, we saw but few, and they were chiefly the raven, and two species of chough, or red-legged crows. Chikores were abundant, and the shrill whistle of the Bhair, or Ladak partridge, was occasionally heard high up among the snows. Of the smaller birds, none but the hardy little sparrow was seen, and I could not help thinking that he, like the sons of Britain, appears in every corner of the earth.

Leaving Pokh at sunrise on the morning of the 17th of June, we travelled for about three miles along a flat and extensive plain, strewed thickly over with boulders of every size. From this we ascended a short but steep hill, in a N.W.b.W. direction, the river taking a somewhat sudden turn, forming an elbow, on the outside of which stands the village of Mānēss below the Mānērūng pass, a difficult and

dangerous road, which leads from Spiti into Kunawur, about seventeen miles from Soongnum.

From this turn the bed of the Spiti becomes much broader, and numerous sand banks, or islands, are seen, some bare and barren, others producing shrubs of the barberry, causing the river to divide into many channels, which gives a pleasing effect to the scene. A walk of four miles along the hill side, brought us at length to our encampment beneath the fort of Dunkur.

The fort and village of Dunkur are built high above the Spiti, among the ragged spires which crown the time-worn rocks that form its bank. This rock is inaccessible on every side, with the exception of that by which it is connected with the main range of hills, of which indeed it forms a spur, or offshoot towards the river. A stream descends on one side of it from the heights, and in former days a covered way existed from the fort to its banks, by which the garrison were enable to obtain water unperceived by the enemy; this has however long since fallen into decay, and its ruins now alone serve to mark the line along which it formerly descended. As a place of strength, Dunkur was well calculated to hold out against the rude bow and arrow warfare, as once practised in these high tracts, but as a check to troops armed in the modern style, even without guns, it is insignificance itself.

The only spot I could find to encamp on here, was on a small patch of grass, immediately at the foot of the cliff on whose crest the fort was perched, and which towered up some hundred feet above us. Near us were encamped a party of shepherds from Choomoortee, who had just arrived to sell their wool and purchase grain. It is the custom among these people to give an order, while the crops are yet green and on the ground, for any amount of grain they may require, which when the crop is ripe, is stored up by the cultivator until the summer of the ensuing year, when the shepherd arrives with his flock, gives the wool in exchange, and receives his grain, which he puts into small bags, brought with him for that purpose, and drives his flock thus laden back into Chinese Tartary.

In the evening when the flock was brought back from pasture, I had an opportunity of witnessing the mode of shearing. The sheep whose fleece had been selected, were caught, thrown upon one side, and their legs bound together, when a shepherd having sharpened the long knife



which he carries at his waist, proceeded with expedition to strip off the wool, singing all the time, and joking with his comrades, who were likewise busily engaged around him. In a very short time the whole of the flock, save a few thin sheep, were sheared, and the wool being twisted into bundles, was carried up to the fort, to which also the next morning the sheep were driven, when having each received a load of from ten to twenty seers, they descended and took the road back to Choomoortee.

Soon after we had encamped, a scuffle took place between these shepherds and my Tartar guide from Leeo, and the latter at last came into camp with a fine fat looking sheep. I was at first inclined to look upon this as a daring highway robbery, but it soon appeared that in the previous year the guide had advanced the sum of five rupees to these shepherds for pushmeena wool, which they were to bring down for him, when they descended to the Rampore fair. This wool had been supplied in part only, and two rupees were consequently still due, for which the Tartar fearing lest he should be cheated, had seized the sheep in question. As the animal however with its fleece was worth more than double the sum required, the shepherds came and entered into an explanation, which seemed satisfactory to both parties, as the animal was restored. I laughed at the guide for being so easily pacified, and told him he would never get his money or his wool, but he replied quite confidently, that the shepherds had pledged their word, and therefore there was no fear, as a Chinese Tartar never broke his promise.

With the wool on these sheep are remarkably handsome animals, and have somewhat the appearance of the large English breeds, but when shorn, they present such a different picture with their long thin limbs and narrow carcase, that one would not know them to be the same animals.

They differ much, also, from the breeds of the lower hills; standing higher on their legs, and the horns wanting that solidity and strength which those of Kunawur possess. There is generally a black longitudinal stripe down the middle of the horn. I was anxious to purchase one or two of this breed, but the people very honestly assured me that they would not live below, on account of the dampness of the climate.

Most of these sheep were formerly purchased by the British Government by an agent appointed for that purpose at Kotgurh, but

from some cause or other it was not found to answer, and the speculation as abandoned. I have been told that a difficulty existed in inducing the Tartars to sell to the British agent, they preferring to trade with the people of the higher tracts.

Whatever might have been the case in those days I know not, but at present I can confidently say, that the Tartars would gladly supply the Government with any amount they might require. They will not, it is true, bring their flocks down, because the climate is unfavourable to them, and also because at the season of the Rampore fair the sheep which are sheared early in summer do not possess a full fleece. The wool however which is cut in the beginning of the year, is sold by the Chinese shepherds to the Tartars of Hungrung and Spiti, and the traders from Kunawur, and it is these people who would supply the market if a demand were made for the wool, and who could procure it from above, in any quantity they chose to pay for.

The failure is far more likely to have been caused by the avarice of the low country traders, who purchasing the wool cheaply above, and perhaps, as is often the case, intermixed with hairs,\* dispose of it again at a rate so exorbitant as to prevent its yielding a remunerating price in the home markets of Europe.

Had the agent instead of remaining in the lower hills paid an annual visit to Tartary, and purchased his wool directly from the shepherds themselves, instead of taking it from the hands of the traders, he would not only have procured a better, but a cheaper article.

In case this wool should ever again become an article of speculation either to the Government or to individual enterprise, it may not be considered superfluous to offer here a few remarks on the method to be adopted in procuring it.

In the first place I would warn the speculator against trusting to native agents, but would recommend him to make his purchases himself. He would probably not be allowed to enter the country under the protection of China, but he might with ease and safety every summer repair to Hungrung or to Spiti, where the Chinese shepherds would not fail to meet him by appointment, and furnish any quantity of wool he might have ordered in the preceding year.

\* Since this was written, I have been informed that such was actually the case, and that the wool was found to be so intimately mixed up with hairs as to render it unserviceable, without incurring a ruinous expense in cleaning it!!

It would be necessary therefore for him to make one trip in order to see the shepherds, and enter into arrangements with them for a supply to be delivered in the following summer at any Tartar station they might decide upon, and also to ascertain *what goods* they would require in return ; for money, I imagine, would be held in less estimation than saleable and useful commodities.

Having made his arrangements, he would again in the following summer have to repair to the appointed place, where he would find the shepherds (as I did at Dunkur) ready with their flocks, and he would thus be able to select his own fleece, and see it shorn before him.

It would therefore be his own fault if any hair or extraneous matter were received with it. Of this, however, as long as the wool did not pass through the hands of agents, there would be no fear, for it is those gentry who adulterate the article in order to increase its bulk, and so derive from the inexperienced trader a greater profit.

The next point to be considered, is the carriage of the wool to the lower hills, and this indeed would be the chief expense.

The method to be adopted, must be the same as that resorted to by the hill people themselves, which is, to load it on the backs of sheep and goats.

For this purpose it would be necessary to purchase a large flock, which during the winter season would find an abundant pasture in the lower tracts, or even in the plains, and in the summer and rainy season would be roaming over the grassy tracts of the upper hills.

The first cost of these animals would be the chief expense, but even this would in the course of one or two seasons repay the outlay by the kids and lambs which would be produced, while something also would be recovered by the sale of the wool and ghee obtainable from the flock.

With his flock therefore the speculator would transport to the Tartar districts, flour, grain, salt, iron, ghee, butter, cloth, sugar, and other articles in demand among the people, and for which, if his purchases were judiciously made either in the plains or lower hills, he might not uncommonly receive cent per cent on his outlay.

The profit thus made upon his own merchandise, would not only more than pay for his wool, but would even nearly, if not altogether, defray the expense of transporting it to the plains, and thus indeed when once the prime cost of his flock had been realised, the speculator might be said to receive his wool for nothing. From the profit arising

on his merchandise also, he would be enabled, should competition be feared from the present traders, to afford to take the wool at a higher rate than they can afford to do, and thus he could effectually drive them from the market, and establish a monopoly.

The experiment is at all events worthy of another trial, since the former failure is entirely to be attributed to the inexperience of the agent, and the rascality of the traders who supplied him.

On the following morning, having left behind me four people to receive supplies, I marched on towards Leedung, crossing the Lingtee river not far from Dunkur. A walk of about seven miles brought us to a miserable village of a few huts, which the guide told me was Leedung, so we halted for the night. After my tent was pitched, and the people had eaten their dinners, we all proceeded in search of fossils in the ravines and water-courses which came down from the heights along the river's bank. Here, however, nothing worth the trouble was found, but as I was searching at some distance from the rest of the party, a lad, whom I recognised as having been with the Dunkur commandant, came cautiously towards me, making signs that there was nothing to be had below, and then pointing to the palm of his hand, and looking towards the summit of the range of hills behind his village, he gave me to understand that for a reward he would lead me up the pass, where I should find something worth having. To this I readily agreed, and at once gave him a small red necklace to make the compact binding. He then in broken Hindostanee, and by signs, told me that I must keep to myself his having given this information, as the killadar had given orders that no one should show me the path up the heights. I afterwards discovered that he was an arrant cheat, and had taken me in with his story, as the killadar only alluded to the passes into Ladak; however I of course promised silence, and when he had pointed out the road, we parted, and I returned to my tent, when I gave orders to the coolies to be ready to accompany me up the heights the next morning.

About a quarter of a mile from Leedung is another small village called Larra. In speaking of either place the Tartars invariably apply the names of both, as Larra-Leedung. This custom is not however peculiar to Spiti, but prevails also in Kunawur when two villages are near each other; thus in Spiti we find Larra-Leedung and Chism-Këburr to be applied to the villages of Larra and Lee-



dung, and of Chism and Këburr, the two last being also on different banks of the river; and in Kunawur the names of Dabling-Doobling are always taken together, though they belong to different villages.

The crops at Leedung were very poor and backward, and it is a great chance if they ripened before the snow fell again; the cultivation higher up the river too, is seldom ready for the reaper before the end of September, and is often wholly destroyed by an early fall of snow.

In the morning I started with about a dozen people up the mountain path, and after a toilsome ascent of 3,000 feet, reached the pass above Leedung. Beyond this was stretched a wide and undulating plain, shelving gradually to a stream far away in the distance; the pass and all the neighbouring hills were yet covered deeply in some places with snow, and the whole scene was one of cold and dreary solitude, with not a tree to intercept the view, nor ought of vegetation but the furze.

Beyond the shelving tract of land which spread down from the ghat, arose again a mighty snow-clad range of hills lifting its hoary head to an elevation varying from fifteen to twenty thousand feet above the sea. Here on the summit of the pass, which is 15,200 feet, an extensive bed of decomposing shale gave a black and charred appearance to the soil, while high on either hand rose mural cliffs of brimstone interstratified with sandstones of different textures; these were splitting by the action of the frost, and falling in heavy masses down the ghat, where low down they formed vast beds of broken fragments of every size. Crossing this pass and descending along the shelving plain, we came, to my surprise, suddenly upon a village situated in the hollow formed by the undulating and blackened hillocks of shale which rose in all directions, looking like heaps of coals and cinders. Beyond this, the Tartar lad pointed to some dark ravines, or water-courses, where he said the fossils were to be found. Thither we of course repaired, but though we searched long and closely throughout the day, a few broken and useless specimens of the casts of Ammonites and Belemnites were all that we collected, and after wandering among the snows and swamps and muddy fields, at an elevation of 14,000 feet, from seven in the morning until 5 p. m., I returned weary and disheartened to the pass, from whence we again descended to our camp at Leedung.

Though puzzled to account for my want of success, I had nevertheless seen enough of the formation on the heights to feel convinced

that fossils must exist there, if they were really to be found in the Spiti valley, and I consequently determined to devote another day to a further search. Accordingly on the morrow I broke up my encampment, and repaired to the village we had seen on the heights above Leedung, among the regions of snow. Having now plenty of time to look about me, I commenced a closer search in the bed of a snow stream, which had scooped a narrow channel through the decomposing shales. Here I was soon rejoiced to find that I had at last "hit the nail upon the head," and a large supply of Belemnites rewarded me for wading ankle deep up the chilly stream. Along with these a few broken Ammonites were also found, and a species of bivalve shell, which the Tartars termed "puthur ka muchlee," or fossil fish.

From this place, which was elevated 15,250 feet above the level of the sea, and covered here and there with beds of snow, I proceeded, after several hours search, to the village about a mile farther down, where my tent was pitched and my people had all arrived.

The following day was again devoted to a search for more and better specimens in various directions, but to very little purpose; and seeing now no prospect of obtaining more, and being unable from the depth of snow to search the lake of Chumor-ra-reel, now only three days journey from us, I was reluctantly compelled to give the order to retreat, for our provisions had dwindled to one day's supply, and there was here no prospect of procuring more for love or money.

The village at which we had encamped was called "Gewmil," and had an elevation of 14,104 feet, yet here, in spite of reviewers and reviews, surrounded in the month of June by deep and extensive beds of snow, a fine and healthy tract of cultivation smiled, like "some bright emerald midst the desert waste." At this season, however, the wheat and barley was barely six inches above the ground, and from the elevation of the tract, it seldom ripens before the first days of October. The hills around it on every side are clothed to their summits with the Chinese furze (*Astragalus* of Royle) which notwithstanding the advanced season of the year, had scarcely put forth a single leaf. This backwardness was however somewhat unusual, and was owing to the lateness of the last fall of snow, which throughout the upper parts both of Kunawur and Spiti, had fallen two months later in the season than is generally experienced; so heavy indeed was the snow still lying on many of the higher passes, that it is more than

probable they could not have been free from it, or open to travellers before the fresh autumnal falls occurred.\*

The season of 1837, which in the Provinces, from want of rain, brought sickness and scarcity upon the inhabitants, was also a time of trial and misery to the poor Spiti Tartars, inhabiting the villages beyond the fort of Dunkur. It was, however, not the want, but the excess of rain, a thing so unusual in those parts, which caused the failure of their crops, by rotting them on the ground; and the little that escaped this scourge, and which would eventually have ripened, was cut off so early as the month of August by a heavy fall of snow which crushed and beat down the grain, and rendered it useless. At the time therefore when I visited those parts, so far from being able to furnish me with supplies, the wretched people were actually reduced, like beasts of the field, to seek for herbs and wild roots with which to satisfy the cravings of hunger, and they were rendered almost frantic with delight by the gift of a handful of meal, which, though straitened as we were ourselves, it would have been inhuman to deny them. Many have been obliged to leave their homes and go as labourers to Ladak, who were lately in possession of cultivated lands.

This, it would appear, is by no means an uncommon occurrence in the higher portions of the valley, for the people in speaking of the quantity of grain likely to be gathered from their fields, always put in the proviso, "if the snow does not fall early."

Around the village of Gewmil, many ponds are found for the reception of the snow water, from which the daily quantity requisite for the irrigation of the crops is supplied. On one of these, at this enormous height, were a pair of Brahminee ducks, which had fled from the summer heats of the Gangetic Provinces to revel in the cool and secluded retreats afforded on the snowy heights of Tartary.

Here, too, among the frowning cliffs, the raven and the vulture-eagle were seen, as also the red-legged and yellow-billed choughs.

From one of the peaks, behind this village, which attained the height of 14,714 feet, I beheld the course of the Spiti river, winding its way for miles along the valley, until it was lost in a turn of the mountains. From this spot I looked down upon the village of Larra, whose houses and cultivation showed like mere specks, when seen from a perpendicular height of 2,700 feet.

\* This proved to be the case, as the Tartars could not descend to the Rampore fair.

Viewed from this elevated station also, the majestic grandeur of the neighbouring hills, which enclose the river like two lofty walls, sink into comparative insignificance, and appear with their snow-capped summits like so many glittering pyramids of sugar; yet they attain to an elevation above the sea of seventeen to twenty thousand feet, and their hoary and time-scarred heads are crowned by everlasting and unfading snows.

It had been my earnest wish to cross the mighty Pralassa range of mountains, from whose snows the Spiti river is supplied, and to visit the beautiful and extensive lake of Chummor-ra-reel, of which Gerard speaks, but from the unusual depth of snow over all the passes, I found this to be impossible; for although I had plenty of time before me, and could have waited till the thaws had commenced, yet the chance that before they could be crossed the autumnal falls would again commence, added to the total impossibility of obtaining provisions for my people, rendered it necessary that I should beat a speedy retreat from the inhospitable valley, and thus I was reluctantly obliged to quit the district without having accomplished one of the most wished for objects of my journey.

This lake is said by Gerard to abound with fish, and to be covered in the summer months by flocks of ducks, geese, and other water-fowl, which resort there from the heats of the Provinces. From Puttee Ram and others who have often visited the spot, I heard that its waters were salt, and could not be drank, as they acted like medicine, so that travellers and the wandering Tartar shepherds who sometimes inhabit the borders of the Lake in their black tents of blanket, are obliged to use the water of the snow streams and springs in its neighbourhood.

From these facts an interesting subject of inquiry arises; namely, whence did this Lake, situated at an elevation of at least 16,000 feet above the sea and surrounded by hills, whose summits are usually capped with snow throughout the year, derive the fish with which it is now stocked? Are they identical with the species common to our rivers of the Gangetic Provinces, or are they distinct and peculiar to the Lake itself?

Doubtless there are many who will infer that they are identical with the species of the Provinces, and that the Lake being the summer resort of water-fowl, the ova have been deposited in its waters through their agency. But to this opinion I feel decidedly averse, from the



fact, that such a sudden transfer of the ova of species belonging to hot climates, to the waters of a lake which is elevated so far above the natural abode of the species, and which are often *ice bound* for several months in the year, would render the ova thus transported totally unfruitful; and that the climate of these regions is totally different from that of the plains, is a fact which is fully established by the migration of birds to them during the summer season.

Again, those birds may resort there from the plains of China, as well as from those of Hindoostan, and as it is equally probable that ova would have been brought from both countries, we should find species of fish peculiar to either country, not only being together in the same climate, but in a climate which differs widely from the natural habitat of all the species.

Moreover, I question whether the ova *could* have been brought from the plains of either country, because the birds by whose agency the waters should have been stocked, quit the rivers of the plains, and resort to those high regions in order to *avoid* the hot season in which the ova are *produced*; therefore the ova could not have been brought by them.

If, again, the lake was stocked with fish through the agency of the water fowl which resort to it, how is it that the smaller lakes and ponds have not been similarly stocked also, for both at Nako in Hungrung, and at Gewmil on the heights of Spiti, I observed the Brahminee duck, so common in the plains of India, yet the ponds at those places do not contain a single fish?

But as the birds do not arrive at the lake in question, in the course of one or even two days, but make various halts in their journey from the plains, it is at once apparent, that the undigested ova which they are supposed to have brought with them, should have been voided rather in the ponds of the intermediate stages, than in the waters of these stupendous regions.

But the most decided proof, perhaps, that this lake was not stocked from the rivers of the plains by the agency of birds, exists in the fact that its waters are *salt*, and strongly impregnated with borax; consequently the ova of species adapted for an existence in pure fresh rivers and ponds, could not have been productive in regions and waters decidedly inimical to their constitutions.

The question however, is one of some moment, and worthy of being fully sifted. I am myself inclined to believe, as will be more fully seen

hereafter in my geological notice of the Spiti valley, that those species may be peculiar to the lake or lakes of those lofty regions, and that they date their existence from the period when those waters first became adapted to support the species which now inhabit them, and that date I fix as *posterior* to the Mosaic Deluge, when, as I shall hereafter have occasion to notice at some length,\* the Himalayan ranges were first upheaved, and many climates were called into existence, requiring new creations to inhabit them, as they themselves were new.

It was for the purpose of endeavouring to elucidate this point, that I felt so anxious to obtain a passage to the Lake Chummor-ra-reel, and my disappointment may therefore be conceived, when I found the pass impracticable from the unusual depth of snow which had fallen so late in the season as the month of April, and which indeed fell again, as I witnessed, for three successive days, during the latter end of June, even so low down as Pokh in the bottom of the valley.

The clearing up of these doubts is a subject well worthy the serious attention of any naturalist who may have the means and the inclination to visit the lake in question.

On the 23d of June, we proceeded once more towards Dunkur by a most precipitous path, which wound backwards and forwards on the side of the hill in such a zig-zag manner that we were almost in a line one above another. The loose nature of the gravelly soil by no means added either to our comfort or safety, for those behind were continually showering down volleys of dust and stones upon the heads of those who were below. This descent at length brought us to the side of a brawling stream, whose waters were dashing over the precipitous rocks with headlong violence in their passage to join the Lingtee river, many hundred feet below us. At the very place where this stream was the most violent, and where it fell over the rocks in a long sheet of foam, a faint shout of many voices reached my ear above the hoarse roar of the cataract, and looking upwards, I beheld to my horror and dismay, a large fragment of rock, rolling down the side of the hill directly upon me. So hampered was I for room, with the steep crumbling hill on the one hand, and the deep chasm on the other, that I should undoubtedly have stuck fast to await the coming blow, had not a Tartar near me, with more presence of mind than gentleness, pulled me flat on my back and allowed the fragment to fly pass us into

\* A Theory of the Earth.

the stream. On inquiry, it appeared that the rock had been displaced by a goat which I had that morning bought for my people, and which being refractory, a man was hauling along by a rope round its horns, and thus in the resistance and scramble of its feet it had nearly made me pay dear for my generosity. A few miles farther on brought us down to the Sangho, across the Lingtee, and on the road to Dunkur, where after a hot walk of about eight miles we halted for the night.

It is perhaps sometimes as well for us that we cannot lift the curtain and peep behind the screens, or we should leave many things undone that our ignorance of coming events prompts us to undertake; and thus it was with me, for had I been at all aware of the fatigues and discomforts which awaited me, I do not think that even my love of science would have tempted me into those bare and chilling scenes.

To describe the numerous shifts and annoyances that a traveller meets with, would be but labour lost, and after all, from him who is snugly ensconced "in his ain ingle neuk," or comfortable parlour, these would but elicit a smile, and therefore it is useless to enlarge upon them, as they must be felt, ere they can be fully appreciated. Not the least of them however is the following; every inch of level ground that can be rendered available is cultivated, and it often happens that the only spot the traveller can find on which to pitch his tent, is one on which, to judge from the deep accumulations of their dung, large flocks of sheep and goats have been folded since the days of the good old patriarch Abraham. Here then "the weary and way-worn traveller" is necessitated to pass a night of sleepless wretchedness, stifled by the stench which arises in almost perceptible fumes from the ground, and devoured by the myriads of fleas whose irritating bite effectually banishes the overtures of that sleep which is so necessary to furnish strength to meet the labours of the morning's march.

Often have I been reduced to banquet on a goat which might, for ought I know to the contrary, have been as aged as myself, and the father of a goodly progeny, strong, tough, and sinewy, as well could be; yet hunger is the best sauce, and bad as I might have thought such fare, when better was procurable, I nevertheless have managed to make a hearty meal off "sinewy Billy" and barley cakes, and blessed my stars that matters were no worse.

To recount the incidents of each day as I retraced my steps through Spiti to Hungrung and Kunawur, would be merely to repeat what has

already been written, and it will therefore suffice to say, that the same streams were waded through, and the same broken and rocky paths were traversed, till we again arrived in safety at the village of Chungo. Having halted here a couple of days to refresh my people, and also to procure specimens of the wild sheep, which abound in the neighbouring cliffs, I once more started with the intention of going to Leeo, but the Vuzeer Puttee Ram, who was now on his way back to Soongnum from the fort of Skialkur, where he had been to inspect the store of arms &c., advised me to take a passing peep at Nako, which he described as a nice cool halting place. I therefore changed my plans and marched to Nako on the heights above Leeo, Puttee Ram sending me a Ghoont to carry me up the hill. The road for the greater part of the way was the same as I had travelled over from Leeo to Chungo, when on my upward journey to Spiti; it was so stony and rugged, that I preferred trusting to my own legs rather than to those of the Ghoont, in spite of the people's assurance that he would carry me safely. The village of Nako, like all the others of these regions, is a collection of small dirty huts, with flat roofs, and built of unbaked bricks of large size, intermingled with slabs of stone, or usually, as in Spiti, of stone for the foundation, and of bricks above. There is a good deal of cultivation about it, and water is plentiful. There is a small pond of good depth near the village, on which were several Brahminee ducks.

The village boasts of two or three takoordwaras, or Lama temples, which contain a few very badly formed clay images of their gods. The people have no objection to a traveller entering their temples, which is a great convenience, as I found more than once when my tent was in the rear, after a long march. At Nako I took possession of one of them, which afforded me a cool retreat during the heat of the day.

The walls of these temples are usually daubed over on the outside with red, whilst on the inside they are painted with numerous grotesque figures of gods, men, and animals; they are generally square built, and contain one room.

The largest of the kind I saw during my journey was at the village of Tabo in Spiti, where there are three or four rooms all decorated with figures. This temple is the largest in the district, and is consequently the head quarters of the Lamas. It contains an immense collection of manuscripts, which are said to contain all the mysteries of



the Lama religion, and on certain occasions are read to all who are willing to listen. There was besides the larger rooms of images, an inner apartment in which a small lamp was burning, and into which I was requested not to set my unhallowed foot, as none but the priests themselves were allowed, except *à la distance !* to inspect what was within. It contained a small altar, placed before a god, with a brazen lamp burning on it; there were also brazen utensils of all sorts and sizes, musical instruments, such as tom-toms and cymbals and a quantity of raw ribs of meat, apparently of mutton, with which, like the jolly friars of olden times, no doubt they were wont to regale themselves.

There are a few Lamas resident at Nako, where they are zemindars. They occasionally receive presents from the brotherhood in China, of small carpets, tea cups, pieces of silk, &c. One of these men coming to pay me a visit and to show all the curious things in his possession, doubtless with a view to tempt me to become a purchaser, the conversation by some chance turned upon the subject of how Lamas were made, and who could become one. He said there were no really good Lamas either in Hungrung or Spiti, as it had become somewhat customary to make a Lama of any wealthy zemindar, who happened to have a family, while properly speaking no Lama, should either marry or have children.

I asked him if I could be made a Lama, to which he replied there could be no objection provided I would study for some months among them, and be initiated into the mysteries of their religion, with regard to the resurrection or reappearance of the Grand Lamas after death. We did not get on very satisfactorily, as the Kunawurrees who were standing by, burst into a loud laugh at my explanation of the case, which displeased the Lama and made him drop the subject.

It seems however from what he said, that when a Grand Lama dies, an inventory is made of all his effects, which are carefully sealed up until his reappearance in life to claim them.

In explanation whereof, he said, suppose a Grand Lama were to die in Chinese Tartary, his effects would be carefully guarded;—some time afterwards perhaps he might appear at Nako in Hungrung, in the form of some Lama's child.

This is known to be the new Grand Lama, from his laying claim to the sealed up effects of the deceased Grand Lama. He is then

asked what those effects consist of, and where they are?—and he accordingly states them one after another.

This is sometimes deemed sufficient proof; but if doubts still remain, the effects of the deceased are brought and *mixed* with other things, and the young aspirant is desired to show what are his, and what are not.

If further proof be still necessary, the child is desired to give some token that he is the Grand Lama, which he does by commanding them to carry him to some spot which he points out, and there he places his hand or his foot on a rock or large stone; when—“*mirabile dictu*,”—if the spirit of the Lama be really within him, the impression remains indented upon the rock!!

This is deemed conclusive, as well it might be, and the urchin is at once proclaimed Grand Lama; presents are showered upon him from all quarters far and near, and he is carefully instructed in the rites and mysteries of his religion, and in due time proceeds to his head quarters in Chinese Tartary.

Among the rocks, but chiefly on the crumbling accumulations of debris in the neighbourhood of Nako, and even at Chungo, there is a plant found whose root is long and strikes perpendicularly downwards to some depth, the outer coat or fibres of which produce a rich and beautiful crimson dye. It is said however to be fugitive, but this may arise from ignorance of any chemical mode of fixing it. It is used by the Lamas to stain their images. The Tartars call it “*khame*.” Behind Nako, at some distance, rises the mighty mountain called in the language of the country “*Purgule*,” and towering aloft to a height which exceeds 20,000 feet. It derives its name from its form, the word signifying “*cone-shaped or conical*,” hence it is applied, like the term “*Kylass*,” to any mountain of that form.

From Nako I proceeded a short down hill march to Leeo, which is situated in the bed of the valley below, at a depth of 3,000 feet. The day was excessively hot at this place, which is completely shut in by hills rising on every side to the height of seven and eight thousand feet above it. Its crops of barley, wheat, and peas, were beautifully rich and luxuriant, and the numerous apricot trees were loaded with fruit, though as yet small and unripe. The grain is reaped at this village towards the latter end of July and beginning of August. In the district of Spiti the harvest takes place in the lower and more sheltered

situations, such as Larree, Pokh, Maness, and Dunkur, in the month of August, while in the upper parts of the valley, at Larra, Leedung, Keeoling, and Gewmil, on the heights, the grain is never ripe before the end of September and beginning of October. At the last named village it is ready about fifteen days later than at the others, which are situated on the river's banks, as might be expected from the difference in elevation, the village of Gewmil being at a height of 14,104 feet above the sea, while the others are from 12,200 to 12,500 feet.

Last year, in the month of August, the snow fell so heavily at Gewmil, that the whole crop was beaten down and destroyed. This present year of 1838, towards the end of June, the crops though healthy looking, were not more than four or five inches above the ground. It is surprising however to see with what rapidity the vegetation of the upper hills is brought to maturity. When I arrived early in June at Hungo, Leeo, and Chungo in Hungrung, their crops of barley and wheat were not more than six or seven inches in height, while on my return, three weeks afterwards, they were all in full ear, and would be ready for the reaper in July. This however is scarcely to be wondered at, when we notice the difference of temperature in that short space of time.—

At Hungo, elevation 11,413 feet by boiling point,

|                       | <i>Sunrise.</i> | <i>Noon.</i> | <i>Sunset.</i> |
|-----------------------|-----------------|--------------|----------------|
| 10th June             | 41°             | 85°          | 60°            |
| 3rd July              | 60°             | 96°          | 64°            |
| Difference in 23 days | 19°             | 11           | 4              |

At Leeo, elevation 9,362 feet by boiling point,

|                       | <i>Sunrise.</i> | <i>Noon.</i> | <i>Sunset.</i> |
|-----------------------|-----------------|--------------|----------------|
| 11th June             | 45°             | 100°         | 50°            |
| 2nd July              | 56°             | 110°         | 70°            |
| Difference in 22 days | 11              | 10           | 20             |

At Chungo, elevation 9,897 feet, boiling point,

|                       | <i>Sunrise.</i> | <i>Noon.</i> | <i>Sunset.</i> |
|-----------------------|-----------------|--------------|----------------|
| 12th June             | 35°             | 82°          | 56°            |
| 29th June             | 43°             | 90°          | 69°            |
| Difference in 17 days | 12°             | 8            | 13             |

(*To be continued.*)

*Zoological Catalogue of the Museum of the Asiatic Society.*—By  
J. T. PEARSON, ESQ.

To H. TORRENS, ESQ.

*Secretary to the Asiatic Society.*

SIR,

When Curator of the Asiatic Society, I wished to make a catalogue of that portion of the Museum—the Zoological, which was my particular charge,\* and to this end got ready a good number of notes, and began to prepare the catalogue; my departure from Calcutta, and afterwards other circumstances, obliged me to put off copying and correcting it. And at last I found, that not only had my arrangement of the Museum been overthrown, but the labels I had attached to the specimens were displaced, probably by some rough treatment. Under these circumstances, my intention of publishing my notes was almost laid aside; but as they may be useful when the Society shall have got a Curator, by saving him a great deal of labour; and as the labels of the osteological specimens were written in ink, they, at all events, could not have fallen off, I have the pleasure of placing a portion of the catalogue at the disposal of the Society; the remainder shall follow as soon as I can prepare it.

In the introductory remarks, I have explained the principles upon which I think such a catalogue should be made: I have therefore nothing to add upon that subject; but as a member of the Society, I must deprecate the changes and innovations in the classification of the objects in the Museum, which I understand to have been made. If every successive Curator be allowed to alter the arrangement at his

\* I mention this, because blame has been cast upon former Curators, for their inattention to the Geological and Mineralogical portions of the Museum. Lest it should be thought just to myself, I distinctly state, that I never took charge of more than the *Zoological* portion of the Museum; Mr. J. Prinsep having had the Geological and Mineralogical specimens under his own care: and I must say it will take much better evidence, than any yet brought forward, to make me believe he neglected them in any way; much less to justify the hue and cry that has been raised about them. The confusion spoken of by the Committee of Papers in their late Curatorship report, has probably arisen since he was compelled by his much to be lamented illness to retire from the country; or from innovations which are better calculated for display, than for improvement.



own will, it will be impossible ever to prepare a catalogue to refer to the specimens, and be highly injurious to the institution. The changes made in the system of classification of the birds, by changing that of Vigors for that of Cuvier, are, so far as I can understand, hardly judicious; and I have yet to learn, that the makers are safer guides in ornithology than Vigors and Horsfield.

I have the honor to be,

Sir,

Your most obedient humble servant,

J. T. PEARSON,

*Member Asiatic Society.*

DARJEELING,  
11th June, 1840.

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Some difficulty was experienced in making a catalogue of the specimens in the Museum of the Asiatic Society previously to the year 1835, owing to there being, in many instances, no record either of the specimens themselves, or of their donors; whenever the name of the latter could be found out, it is given; and in future each specimen should be carefully registered, immediately it is received.

In forming a catalogue of a daily increasing Museum, it is evident it cannot be a systematic one. A numerical plan therefore is adopted, in which the specimens are numbered according to the order in which they come before the Curator. In the cabinet, however, a systematic arrangement of the specimens will, as nearly as possible be followed, and upon each a number placed, referring to the same number in the catalogue. Thus the catalogue will be numerical; the arrangement systematic.

But should it be thought desirable, the Curator can, in each successive edition, add a list of the specimens, arranged according to the system or method followed, as an Appendix.

The general system of classification adopted, is that of "La Règne Animal," on account of its being at present that most in use. But particular branches of Zoology will be classified according to the system best adapted to the present state of the science. In Birds, the classification of Mr. Vigors will be followed, in Insects and Crustacea, that of Latreille; in Mollusca, that of Lamarck; and in Mammalia, Reptiles, and Fishes, that of Cuvier himself.

## OSTEOLOGY.

- No. 1. } CLASS. Mammalia—ORD. Carnassiers—FAM. Carnivora—  
 2. } TRIBE. Digitigrades—GEN. Felis.  
 3. }  
 4. } SP. *F. tigris*—The Tiger.  
 5. }  
 6. } *A Skull.*

Among the lists of donations to the Museum, many specimens of Tigers' skulls are mentioned; but there is no record as to the donors, of any particular specimen.

- No. 7. *Felis leopardus*.—The Leopard.

*A Skull.*

- No. 8. GEN. *Hyæna*.

SP. *H. vulgaris*.—The Striped *Hyæna*.

*A Skull.*

- No. 9. GEN. *Felis*.

SP. *F. kutas* (?) The Kutas.

*A Skull.*

There is some doubt as to this specimen, but it is believed to belong to the animal described under the above name, by *Mr. J. T. Pearson*, in the *Journal of the Asiatic Society*, vol. i.

- No. 10. *F. catus*. The Domestic Cat.

*A Skull.*

- No. 11. } GEN. *Canis*.

12. } SP. *C. Lupus*. The Wolf.

14. } *A Skull.*

Mr. G. T. Lushington is mentioned in the *Journal As. Society*, vol. iv. p. 56, as having presented a series of skulls, among which were three of the Wolf.

- No. 13. }

15. } *Canis familiaris*. The Dog.

16. } *A Skull.*

17. }

- No. 18. GEN. *Viverra*.

SP. *Viverra*. —

*A Skull.*

- No. 19. ORD. Quadrumana—FAM. Simiadæ—GEN. *Semnopithecus*.

SP. *S. entellus*. The Entellus Monkey.

*A Skull.*

The common long tailed, black-faced, black-handed Monkey of Bengal, Behar, and Orissa.

No. 20. ORD. Carnassiers.—FAM. Carnivora.—TRIBE. Plantigrades.  
GEN. Ursus.

SP. U. labiatus (?) The long lipped Bear (?)

*A Skull.*

No. 21. } ORD. Marsupiaata—GEN. Kangurus.  
22. } SP. K ———? The Kangaroo.

*A Skull.*

I am uncertain as to the species, and prefer to leave a blank, (which may be filled up hereafter) to the chance of a wrong designation. A cranium of a Kangaroo is stated in the 12th vol. Researches As. Soc. to have been presented by Dr. Wallich, probably one of the above.

No. 23. ORD. Pachydermata.—GEN. Tapirus.

SP. T. Malayanus. The Malacca or Indian Tapir.

*A Skull.*

Major Farquhar sent this specimen to the Secretary in 1816, and his paper upon the Malacca Tapir appeared in the 13th volume of the Researches, 1820. Sir S. T. Raffles has since discovered the same animal in the forests of Sumatra; and Sir E. Home has given a short notice upon the comparative anatomy of the Tapir of Sumatra, which was read before the Royal Society on the 22d March, 1821, and published in the cxi. vol. of the Philosophical Transactions.

These dates are given, because a discussion has been carried on between some English and French naturalists, as to the discovery of the Malacca Tapir. The latter stating that it was discovered by Mr. Diard, and the former by the donor of this specimen.

The present specimen has an additional interest, from its being the first that brought the Malayan Tapir to the notice of the naturalist.

No. 24. ORD. Cetacea.—FAM. Sirenia.—GEN. Halicore.

SP. H. Indica. The Dugong.

*A Skull and part of the Vertebrae.*

This specimen was either presented by Major Farquharson, or Dr. Tytler; I am uncertain which. In the paper in the Philosophical Trans-

actions, by Sir E. Home, mentioned under the last specimen, the author has instituted a comparison between the Lamintin and the Dugong, or Duzong. A matter which was settled long before in the "Annales du Museum d'Histoire Naturelle."

No. 25. FAM. Cete.—GEN. Delphinus.

SP. D. Gangeticus. The Gangetic Dolphin.

*A Skull.*

The Gangetic Dolphin is the *Platanista Gangetica*, of Hardwicke and Gray.

No. 26. SP. Delphinus delphis.—The Porpoise.

*A Skull.*

In the 12th vol. of the Researches As. Society, mention is made of a presentation by Dr. Wallich, of the cranium of a "Dolphin, found near the Isle of France."

No. 27. ORD. Pachydermata.

28. GEN. Rhinoceros.

29. SP. R. Indicus. The Indian Rhinoceros.

30.

*A Skull.*

Dr. Wallich presented *five* crania of the Rhinoceros; see Researches vol. 12.

No. 31. SP. Rhinoceros Indicus. The Indian Rhinoceros.

*An articulated Skeleton.*

This specimen was shot at Baugundee, in Jessore, by Mr. J. H. Barlow, and presented in his name to the Society, 1834.

No. 32. FAM. Proboscidea.

33. GEN. Elephas.

34. SP. E. Indicus.

*A Skull.*

Nos. 32 and 33 were presented by Dr. Wallich, (see Researches vol. 12) the latter being a divided skull. No. 34, a fine specimen, was presented by the late Dr. J. Adam.

The old trivial name for this species has been, for some reason or other, changed into that of "Asiaticus," a name less definite even than that of Indicus; and not, like it, recommended by time and classical recollections.



No. 35. GEN. Sus.

SP. S. scrofa. The Hog.

*A Skull.*

No. 36. } Sus babyrussa.—The Babyroussa.

37. } *A Skull.*

Crania of the Babyroussa are mentioned in the list of donations in the 12th vol. of the Researches, as presented by J. Dunlop, Esq., and Dr. Wallich.

No. 38. ORD. Carnassiers.

FAM. Carnivora.

TRIB. Digitigrades.

GEN. Canis.

SP. C. lupus. The Wolf.

*A Skull.*

Presented by G. T. Lushington, Esquire.

No. 39. SP. Canis familiaris. The Dog.

*A Skull.*

No. 40. ORD. Rodentia.

GEN. Lepus.

SP. L. cuniculus. The Rabbit.

*A Skull.*

It is well known that the teeth of animals of this genus are subject to an extraordinary growth of the incisor teeth. In the present specimen, this is carried to excess; for not only are the incisors, above and below, enormously lengthened, but the molar, or cheek teeth, also partake of it; particularly the two anterior ones in the upper jaw, which are much larger than any of the rest (though all are long) and curved outwards, as if making their way through the cheek.

No. 41. } ORD. Ruminanta.

42. } TRIB. Capridæ.

43. } GEN. Antelope.

44. } SP. A. cervicapra. The common Antelope.

45. } *A Skull and Horns.*

No. 46. SP. Antelope leucoryx. The White Oryx

*A Skull and Horns.*

Major Hamilton Smith states the Antelope leucoryx to be the true Oryx of Appian; the Antholops of Eustathius; and the great Goat of

the Shah Nameh; it is said to be common in Bahrein, and along the coasts of the Persian Gulf, and also on the western side of the Indus, as far as Candahar.

No. 47. SUB-GENUS *Damalis*.

SP. *D. caama*. The Caama.

*Horns and part of the Skull.*

Presented by R. Home, Esq., if this is the specimen put down in the list of donations to the Museum in the 12th volume of the Researches as "a skull of the Cape Antelope." The animal named by the Caffers, Caama, is the Harte beast of the colonists; and the Cervine Antelope of Pennant and Shaw.

No. 48. GEN. Antelope.

SP. *A. Thar*. The Thar Antelope,

*Horns and part of the Skull.*

No. 49. *Horns of the last species.*

No. 50. *A horn of the Thar Antelope (?)*

This horn differs from the preceding in being more robust, more gradually tapering, not so sharp at the point, not transversely wrinkled so far down, nor so much wrinkled longitudinally, as they are; and in the rings being more numerous, and better defined than in them. These differences are so marked as to lead to a doubt, if the two are of the same species.

No. 51. } SP. Antelope?

52. } *Skull and Horns.*

53. } There are three skulls, and some detached horns of

54. } this species in the Museum. They were presented by Mr.

55. } G. T. Lushington; and came, it appears, from the neighbourhood of Bhurtpore. The species is unknown to me; and perhaps is a new one.

The last specimen (No. 55) has the horns apparently distorted, being more lyrated, and more bent inward at the tips, than the others.

No. 56. } SP. Antelope chiru.—The Chiru.

57. } *Horns of the Chiru.*

58. } Presented by Lieut. Robison. The Chiru, or Unicorn as

59. } it is still absurdly called, is by some supposed to be the

60. } Kemas of Eliau. All the specimens (except No. 56. which appear to be a pair) are odd horns, or of unequal length.

- No. 61. } SP. Antelope cervicapra—The common Antelope.  
 62. } *Horns of the common Antelope.*

- No. 63. }  
 65. } SP. Antelope ———— ?  
 66. } *Polished Horns of an Antelope.*

- No. 64. SP. Antelope ———— ?  
*A single Horn.*

Species similar to No. 51, but horn more bent backwards.

- No. 67. SP. Antelope guoral—The Ghoral Antelope.  
*A Skull and Horns of the male.*

Presented by Lieut. Vicary, 4th Regt. N. I.

- No. 68. SP. Antelope guoral—The Ghoral Antelope.  
*A Skull and Horns of the female.*

Presented by Lieut. Vicary.

- No. 69. SP. Antelope cervicapra—The common Antelope.  
*A Skull and Horns.*

Presented by Lieut. Vicary.

- No. 70. SP. Antelope chiru—The Chiru.  
*A single Horn.*

- No. 71. SP. Antelope ———— ?  
*A Skull and Horns.*

Another specimen of the species mentioned under No. 51.

- No. 72. GEN. Capra.  
 SP. C. Jemlahica—The Jemlah Goat.  
*Horns and part of the Skull.*

- No. 73. } GEN. Ovis.  
 No. 74. } SP. O. Argali—The Argali.  
*Horns and part of the Skull.*

The Ovis Argali is the O. Ammon of many modern naturalists. The O. Pygargus is also called Argali.

No. 74 has a larger portion of the skull attached to the horns, than the other has; it was presented by Mr. W. B. Bayley; see Researches, vol. 13.

No. 75. SP. Ovis aries. The common Sheep.  
*Part of the Skull and Horns of an Indian variety of the common Sheep.*

No. 76. GEN. Damalis.  
 SP. D. Strepsiceros—The Koordoo.  
*A single Horn.*

No. 77. GEN. Bos.  
 SP. B. taurus?  
*Part of the Skull and Horns.*

No. 78. SP. Bos gour. The Gour.  
*Horns and part of the Skull.*

Major General Hardwicke has well described the horns of the Gour in the Zoological Journal, vol. 3. p. 231. His description is accompanied by a plate.

No. 79. }  
 80. } SP. Bos bubalus. The Buffalo; Indian variety.  
 81. } *Skull and Horns.*  
 82. } No. 79 was presented by Lieut. R. C. Nuthall.

No. 83. SP. Bos gour. The Gour.  
*A pair of polished Horns.*

Presented by Mr. G. Dowdeswell, see Researches, vol. xii.

No. 84. } SP. Bos———?  
 85. } *Polished Horns of a species of Bos; perhaps of the Gour.*

No. 86. } SP. Bos bubalus. The Buffalo.  
 87. } *Horns of the Buffalo; Indian variety.*  
 88. } No. 87 is polished.

No. 89. GEN. Ovis.  
 SP. O. aries. The common Sheep.  
*A pair of Horns.*

No. 90. GEN. Cervus.  
 SP. C. Wallichia. The Nepaul Deer.  
*A pair of Horns.*

These horns were perhaps cast by the specimen of Nepaul Deer brought from that country by Dr. Wallich, our esteemed Vice-President, in whose honour the species was named.



- No. 91. }  
 92. } SP. Cervus Bara-Singha. The twelve antlered Deer.  
 93. } *A Skull and Horns.*

The present species is the Bara-Singha, or twelve antlered Deer of Indian sportsmen. The species is, perhaps, as I have assumed it to be, new to science; and it seems to be intermediate between the Elaphine and Rusa groups. The bifurcation, and rebifurcation of the horns, with the single antler below, is somewhat similar to that of the Cervus macrotis of the North-west of the United States, but in other respects the horns differ.

No. 94. SP. Cervus. ——— ?

*A pair of Horns.*

A pair of distorted horns, according to a label attached to them, "cast by the Elk at Allipore, 15th February, 1833, W. Bell." What the animal here called an Elk really was, is doubtful, especially as the horns are distorted. They appear like those of the Bara-Singha.

- No. 95. } SP. Cervus porcinus. The Hog Deer.  
 96. } *Horns and part of the Skull.*  
 } No. 96 a pair of Horns.

- No. 97. } SP. Cervus ——— ?  
 98. } *A pair of Horns, distorted, probably cast by a Deer kept in confinement.*

No. 99. SP. Cervus pocinus. The Hog Deer.

*A single Horn.*

- No. 100. } SP. Cervus axis. The spotted Axis Deer.  
 101. } *Horns of the Axis.*

The pair No. 101, covered with the skin.

- No. 102. } SP. Cervus hippelaphus. The great Rusa Deer.  
 103. } *Skull and Horns.*  
 } No. 103 Horns only, but covered with skin.

In Griffith's Synopsis, the name of Baren-Singha (Bara-Singha perhaps) is given as a Hindi synonym of this Deer, but it is evidently a mistake, for, in India it is called Saumer; and there are two Deer so called, which differ much from each other, one black, the other red, and the latter much larger than the former. The present species is the great Axis of Pennant,

- No. 104. SP. *Aristotelis*. The black Saumer, or Rusa Deer.  
*Horns and part of the Skull.*
- No. 105. SP. *Cervus hippelaphus* (?) The great Rusa Deer (?)  
*A single Horn.*
- No. 106. SP. *Cervus muntjak*. The Khyjang.  
*Horns and part of the Skull.*
- No. 107. SP. *Cervus hippelaphus*. The great Rusa Deer.  
*A single Horn.*
- No. 108. SP. *Cervus aristotelis*. The black Saumer or Rusa Deer.  
*A single horn.*
- No. 109. ORD. *Pachydermata*.  
GEN. *Eguus*.  
SP. *E. caballus*. The Horse.  
*A Skull.*
- No. 110. GEN. *Rhinoceros*.  
SP. *R. Indicus*. The Rhinoceros.  
*An articulated right hind foot: the os calcis mutilated.*
- No. 111. GEN. *Elephas*.  
SP. *E. Indicus*. The Indian elephant.  
*A Scapula.*
- No. 112. ORD. *Carnassiers*.  
FAM. *Marsupiata*.  
GEN. *Thylacynus*.  
SP. *T. cynocephalus*. Van Diemen's Land Tiger.  
*A Skull.*

This specimen was taken from a stuffed skin presented by Dr. J. Henderson. The dentition of the species having been incorrectly given heretofore, I described it as accurately as the state of the present specimen would admit of (the incisors being wanting) in the 4th vol. of the Journal of the Asiatic Society, page 572. But since my description was written (and in consequence of its having been written) another specimen has been presented to the Society; and it is to be desired that some competent person should describe the position of the incisor teeth from it. I have reason to doubt the accuracy of my conjecture, formed as it was, from the empty sockets only.

No. 113. ORD. Cetacei.

FAM. Cete.

GEN. Monodon.

SP. *M. monoceros*. The Narwhal.

*A Tusk.*

Presented by Captain Lumsden: see Researches, vol. xiv.

No. 114. } CLASS. Reptilia.

115. } ORD. Sauria.

GEN. Gavialis.

SP. *G. gangeticus*. The Gangetic Gavial or Guryal.

*Skulls of the Guryal Alligator.*

No. 116. } GEN. Crocodilus.

117. } SP. *C. biporcatus*. The Indian Crocodile.

Large skulls, the former covered by the skin. Of these specimens, the former was presented by Mr. M. Cheese, and the latter by Dr. Wallich: see Researches As. Soc. vol. xii.

It has been supposed that there are two species of the Indian Crocodile; but so far as I know, nobody has yet been able to distinguish correctly between them. I have discovered, however, what I consider to be undoubted signs:—viz. *the cranium of the one has ONE TOOTH MORE than the other, and is much broader in proportion.* Several specimens in the Society's Museum, shew this.

No. 118. CLASS. Mammalia.

ORD. Ruminantia.

GEN. Capra.

SP. *C. hircus*—The Domestic Goat.

*A Skull and Horns.*

No. 119. GEN. Ovis.

SP. *O. aries*. The common Sheep.

*A Skull and Horns.*

No. 120. ORD. Pachydermata.

GEN. Hippopotamus.

SP. *H. amphibius*—The Hippopotamus.

*A Tusk.*

No. 121. ORD. Quadrumana.

GEN. Simia.

SP. *S. gigantea*. The Gigantic Ape.

*The lower Jaw.*

The lower jaw of the Gigantic Ape shot by Captain Cornefield in Sumatra and presented by him to the Society ; described by Dr. Abel in the Researches. I am not sure whether or not the above trivial name has been given before, but it seems to be the most appropriate.

No. 122. FAM. Lemures.

GEN. Lemur.

SP. L. mongoz (?) Woolly Lemur (?)

*A Skull.*

No. 123. ORD. Rodentia.

GEN. Castor.

SP. C. fiber—The common Beaver.

*A Skull.*

No. 124. ORD. Carnassiers.

FAM. Carnivora.

TRIB. Digitigrades.

GEN. Lutra.

SP. L. — The — Otter.

*A Skull.*

There are at least two Otters in India ; a large and a small species.

No. 125. ORD. Cetacei.

126. FAM. Cete.

GEN. Balæna.

SP. B. mysticetus. The ———

*A Skull, Scapula, and thirty-four Vertebra.*

No. 126. One side of a large lower jaw.

No. 125. Presented by G. Swinton, Esq.

No. 127. ORD. Quadrumana.

FAM. Simiadæ.

GEN. Semnopithecus.

SP. S. maurus (?) The Negro Monkey (?)

Presented by Mr. J. T. Pearson, mounted in the Museum.

*A Skeleton.*

No. 128. ORD. Rodentia.

GEN. Mus.

SP. M. decumanus. The Norway Rat.

*A Skeleton.*

Presented by Mr. J. T. Pearson.



No. 129. ORD. Carnassiers.

FAM. Carnivora.

TRIB. Digitigrades.

GEN. Paradoxurus.

SP. P. typus (?) common Paradoxurus (?)

*An articulated Skeleton.*

Presented by Mr. J. T. Pearson.

I am uncertain as to the species of this animal ; in colour, form, and size, it is like the *Viverra musanga* of Horsfield, but the dental system is different.

No. 130. GEN. Felis.

SP. F. catus.—The Cat.

*An articulated Skeleton.*

Presented by Mr. J. T. Pearson.

No. 131. ORD. Pachydermata.

GEN. Hipopotamus.

SP. H. amphibius—The Hippopotamus.

*An incisor Tooth.*

No. 132. CL. Reptilia.

133. ORD. Sauria.

134. TRIB. Crocodilidæ.

GEN. Crocodilus.

SP. C. biporcatus—The Indian Crocodile.

*A Skull and lower Jaw.*

Nos. 133 and 134 are of the Skull only.

No. 135. CL. Aves.

ORD. Grallatores.

FAM. Ardeidæ.

GEN. Phœnicopterus.

SP. P. ruber. The Red Flamingo.

*The Bill.*

No. 136. ORD. Natatores.

137. FAM. Pelecanidæ.

GEN. Pelecanus.

SP. P. onocrotalus. The Pelican.

*The Skull and upper Mandible, and 137 with lower do.*

- No. 138. ORD. Grallatores.  
FAM. Ardeidæ.  
GEN. Mycteria.  
SP. M. Australis. The Jabiru.  
*Skull and Mandibles.*

- No. 139. ORD. Insesores.  
TRIBE. Scansores.  
FAM. Ramphastidæ.  
GEN. Ramphastos.  
SP. R. pectoralis—The Red Breasted Toucan.  
*Skull and Mandibles.*

- No. 140. TRIBE. Conirostres.  
FAM. Buceridæ.  
GEN. Buceros.  
SP. B. Malabaricus—Pied Hornbill.  
*A Skull.*

Presented by Lieut. Vicary.

- No. 141. ORD. Grallatores.  
FAM. Ardeidæ.  
GEN. Platalea.  
SP. P. leucorodia—The White Spoonbill.  
*A Skull.*

Presented by Lieut. Vicary.

- No. 142. CL. Mammalia.  
ORD. Rodentia.  
GEN. Sciuropterus.  
SP. S. ————— ?

*A Skull.*

Presented by Lieut. Vicary.

- No. 143. ORD. Ruminantia.  
FAM. Capridæ.  
GEN. Antelope.  
SUB. GEN. Tetracerus.  
SP. A. chikara—The Chikara.  
*A Skull and Horns.*

Presented by Lieut. Vicary.

No. 144. GEN. Capra.

SP. C. Jemlahica. Jemlah Goat.

*Skull and Horns.*

Presented by Lieut. Vicary.

No. 145. GEN. Antelope.

SP. A. chiru. The Chiru.

*A pair of Horns.*

Presented by Lieut. Vicary.

No. 146. ORD. Pachydermata

GEN. Elephas.

SP. E. Indicus—The Elephant.

*A Skeleton.*

Presented by Mr. W. Masters.

The bones are complete, but from the youth of the specimen, unfit for articulating; so I procured another.

No. 147. GEN. Equus.

SP. E. caballus—The Horse.

*An articulated Skeleton.*

The Horse presented by Messrs. Hunter and Co. the Skeleton prepared and mounted in the Museum.

No. 148. ORD. Carnassiers.

FAM. Carnivora.

TRIB. Digitigrades.

GEN. Felis.

SP. F. leopardus. The Leopard.

*A Skull.*

Presented by Dr. McCosh.

No. 149. SP. Felis tigris. The Tiger.

*A Skull.*

Presented by Dr. McCosh.

No. 150. TRIB. Plantigrades.

GEN. Ursus.

SP. U. labiatus. The Long-Lipped Bear.

*A Skull.*

Presented by Dr. McCosh.

No. 151. CL. Reptilia.

ORD. Sauria.

GEN. Gavialis.

SP. G. Gangeticus. The Gangetic Guryal.

*A Skull.*

Presented by Dr. McCosh.

No. 152. ORD. Chelonia.

FAM. Emyda.

GEN. Emys.

SP. E. kuchuga. The Kuchooa.

*A Skeleton.*

Specimen presented by Mr. J. T. Pearson mounted in the Museum.

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*Bactrian and Sassanian coins in the possession of Capt. HAY, Bengal  
Engineers Regt.*

NOTE.—As Capt. Hay, most kindly put me in possession of drawings of the more valuable part of his collection, with such notes as his imperfect means of reference at Bameean enabled him to furnish, I thought I could not better repay the uniform support with which he has favoured me, than by availing myself of the offer of my friend Lieut. Cunningham, to remark at length upon his coins, thus submitted for the deliberate opinion of an excellent numismatist.

I need merely preface these remarks, by briefly noticing that the coins represented in Plate I. "were found together in an earthen pot at Bameean", and that the others were chiefly procured at Cabool. Nos. 9, and 13, however, of Plate iv. are from Bulkh. If Capt. Hay could trust the latter out of his possession, its examination might add perhaps some material point to the mass of valuable information, which numismatic research has elicited regarding the hitherto obscure history of former dynasties in central Asia.



*Notes on Captain Hay's Bactrian Coins.* By Capt. A. CUNNINGHAM.

## PLATE I.

No. 1.—A square copper coin, of middle size and good make, and in fair preservation. I recognize this piece at once, from its Bactrian legend, as a coin of Azilises:—it is not unique, though hitherto unpublished; for I have seen two other specimens of the same coin, one of which has the Bactrian legend nearly perfect; and from it I have completed the following description of Captain Hay's coin.

*Obverse.*—The figure of the king bare-headed and diademed on horseback turned to the right, the end of the fillet floating behind his head; above the horse's head a mark, which may be either a plume or the Bactrian letters *ri* or *ti*: enclosed in a square, formed of dotted lines. Legend, disposed on all four sides,— $\beta$ ασιλεω $\varsigma$   $\beta$ ΑΣΙΛΕΩΝ ΜΕΓΑΛΟ $\Upsilon$  ασιλισου.—“(Coin) of the great king of kings, Azilises.”

*Reverse*.—Enclosed in a square, the figure of Hercules naked, seated on a rock and turned to the left; leaning forward and holding in his right hand a club, which rests on his thigh; his left hand leaning on the rock, with two streamers floating behind his head. In the field a monogram composed of the two identical marks found on the reverse of the silver coin of Azilises (See Jour. des. Sav. for April, 1836, Vignette No. 20: and Bengal As. Soc. Jour. for June 1835, plate XXIII. fig. 27.)—The upper part of our monogram, which is that to the right of the figure of Victory on the silver coin, is composed of the Bactrian letters *si*. Legend in Bactrian characters '(Ma) harajasa mahatasa Azilisa(sa). " (Coin) of the great king, the mighty Azilises.

The type of this remarkable piece (which is on both sides identical with that of the coins of Spalyris), the square form common to both, and the similarity of make and general appearance, all tend to prove that these two princes were contemporaries of the same dynasty, and most probably of the same family. For the legend of the coins of Spalyris [□ΑΛΥΡΙ□ ΔΙΚΑΙΟΥ ΑΔΕΛΦΟΥ ΤΟΥ ΒΑΣΙΛΕΩΣ] —“ (Coin) of Spalyris the just, the brother of the king:” added to the facts before mentioned, renders it nearly certain that

Spalyris the just, was the brother of the great king of kings, Azilises.

The same type of a seated Hercules, figures on the unique coin of Agathoclea, and were it not for the presence of a bust on her money, and the better workmanship and higher finish observable in her coin, which determine it to belong to an earlier and more flourishing era of the Græcio-Bactrian power, I should be inclined to believe that she was the wife of Azilises; and that the same prince who had delegated to his brother the power of coining, had also allowed his queen the same authority, or perhaps had ordered coin to be struck in her name.

I will conclude my notice of this new and valuable coin of Azilises, by observing, that the square monogram surmounted by the Bactrian letters *si* on this coin, is so entirely different from the circular monogram found on all the coins of Spalyris, as to form a sufficient distinction for attributing defaced coins of this type to the proper owner.

No. 2. A square copper coin of middle size, much defaced, but easily recognised as a specimen of the commonest type of the coins of the great king Eucratides, of which the following is a description.

*Obverse.*—Head of the king helmeted and diademed, the ends of the diadem appearing under the helmet behind; the chlamys on the shoulder. Great legend in three lines ΒΑΣΙΛΕΩΣ ΜΕΓΑΛΟΥ ΕΥΚΡΑΤΙΔΟΥ. “ (Coin) of the great king Eucratides.”

*Reverse.*—The Dioscuri mounted, with spears in their hands, charging at speed to the right; in the field a Grecian monogram. Legend in Bactrian characters in two lines. *Maharajasa Eukratidasa* “ (Coin) of the great king Eucratides.”

The numerous coins of Eucratides are, with one exception, of two distinct classes—the first class consisting of all the pieces bearing a diademed head, with the simple inscription ΒΑΣΙΛΕΩΣ ΕΥΚΡΑΤΙΔΟΥ “ (coin) of the king Eucratides”—the second class, including all the pieces with the helmed head, and the longer inscription of ΒΑΣΙΛΕΩΣ ΜΕΓΑΛΟΥ ΕΥΚΡΑΤΙΔΟΥ “ (Coin of the *Great* king Eucratides.”) This marked distinction between these two groups of coins has led the learned and judicious French antiquary, M. Raoul-Rochette, to attribute the class with the helmed head and the more







ambitious title, to a second Eucratides; the son, successor, and murderer of Eucratides the First—thus giving the first class, with the bare diademed head and the simpler title, to Eucratides the murdered Prince. But that Eucratides *the Great*, was the murdered prince, and not the murderer, we may infer from the language of Justin (lib. 42, c. 6) who, speaking of Mithridates the Parthian, and of Eucratides the murdered prince of Bactria, calls them both “*great men*”—We have also the testimony afforded by the small square copper coin of Eucratides, published in the Journal of the Asiatic Society of Bengal for November, 1836, which gives the title of “*Great*” to the bare-headed and diademed prince, and proves that this creation of a second Eucratides is without any foundation. The existence of a second Eucratides is, besides, nowhere mentioned in ancient history; but the supposition that there were two princes of this name, first started, I believe by Bayer, has been gradually gaining strength, until by the knowledge of these marked distinctions in the coins bearing the name of Eucratides, it has been almost universally believed. Fortunately for the cause of true history, we know from Dr. Lord’s beautiful coin (published in the Bengal Asiatic Society’s Journal for July, 1838) that Eucratides the *Great* king with the helmed head was the son of Heliocles and Laodice: and therefore it follows almost conclusively, that Eucratides the king, and Eucratides the *Great* king, were one and the same person. It is however quite in accordance with Grecian custom, that the son of Heliocles should have been called Eucratides, after his grandfather: but that the father of Heliocles, even supposing he had been named Eucratides, was a king of Bactria, is highly improbable. On the same grounds of different types and epithets existing on coins bearing the same prince’s name, we might create two Menanders, double Heliocles and Hermœus, and multiply Azes into at least a dozen princes.

No. 3. This coin may be at once seen to belong to Azes, and is a very bad specimen of the commonest type of the coins of that prince. I have seen at least one hundred coins of this very type; and three engravings of the same are to be found in the Bengal Asiatic Society’s Journal, vol. 4, pl. 22, figs. 1, 2, 3; one of the same type is likewise figured from a miserable specimen in the 7th number of the Numismatic Journal of London, pl. 3. fig. 34;

and the same coin is likewise described by M. Raoul-Rochette in the *Journal des Savans* for April 1836, page 201—and by M. Jacquet in the *Journal Asiatique* for February, 1836, page 167. The description of this coin is as follows—Round copper piece of large size.

*Obverse*.—The humped bull of India walking to the right, over which is a square monogram with two diagonal lines. Greek legend— $\text{ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΑΖΟΥ}$ . “(Coin) of the great king of kings, Azes.”

*Reverse*.—The *sinha*, or maneless lion of India, walking to the right, over which is the monogram composed of the Bactrian letters *s. p. l. i.*; surrounded by the legend in Bactrian characters, *Maharajasa Rajatirajasa Mahatasa Azasa*. “(Coin) of the great king of kings, the mighty Azes.”

No. 4.—Is a coin of an anonymous prince, with sounding titles, whose titles are however not in the possessive case, as stated by Captain Hay; but he is quite right when he says that none of these coins have any king's name upon them. The following is a description of this coin.

*Obverse*.—Head of the king radiated and diademed to the right, the ends of the diadem floating behind the head, the chlamys thrown over the shoulder: in the right hand, which is extended, is a sceptre or sword, which on some coins changes into a cross with two streamers hanging from it: in the field a monogram composed of a trident and circle joined by a cross; the whole surrounded by a dotted circle.

*Reverse*.—A person on horseback to the right, with the right arm raised, and holding in the hand a cross: behind the head are two streamers, and before the horse is the monogram already described. Legend in bad Greek  $\text{ΒΑΣΙΛΕΥΣ ΒΑΣΙΛΕΩΝ ΣΩΤΗΡ ΜΕΓΑΣ}$  The great king of kings, the Saviour.”

Nos. 5, 6, 7.—These three coins are of a prince whose name varied on different specimens as observed by Captain Hay in three coins which he has figured: some pieces of this type bear the name of Hermœus, some have Kadphises and Kadphizes, whilst others have Kadaphes and Kadphes, all of which names, except the first, agree so nearly, as to warrant the conclusion that they belong to the same prince; and at the same time they furnish us with an almost convinc-

ing proof, that the name of the Indo-Scythic prince, whose coins are so numerous, was Kadphises and not Mo-kadphises; a reading which I believe has found but two advocates, Messrs. Jacquet and R. Rochette. The differences in the names observable on these coins arise, in my opinion, solely from the artist's ignorance of the Greek character; which the inferior workmanship of the coins proves to belong to a declining period of the Græcio-Bactrian power. The general description of these coins is as follows. Round copper piece, of middle size.

*Obverse.*—The king's head to the right, bare and diademed, with the ends of the diadem floating behind the head, and the chlamys on the shoulder: legend in barbarous Greek ΒΑCΙΑΕΩC ΣΤΗΡΩC ΣΥ (or ΣΥΑΩ) ΕΡΜΑΙΩΥ (or ΚΑΔΦΙΖΩΥ or ΚΑΔΦΕΩΥ &c.) “(Coin) of the saviour king Hermœus (or Kadphises).—On all the coins of this type which I have seen, the Ω is wanting in the word ΣΩΤΗΡΩC.

*Reverse.*—Figure of Hercules naked, standing to the front; the lion's skin hanging over his left arm, his right hand leaning on his club, which rests on the ground. The legend, in Bactrian characters, I cannot read satisfactorily. I have carefully examined about twenty specimens of this type, and I have found that all of them, whether belonging to Hermœus or to Kadphises, bear, with some slight variations, the same Bactrian legend. This is an important fact, which I am unable to account for. Captain Hay's Euthydemus, published in the 97th No. of the Journal, is a coin of this type, with the name of ΕΡΜΑΙΟΥ plainly legible.

No. 8.—A round copper coin, of middle size, and apparently in bad preservation.

*Obverse.*—Bearded head of the king, bare and diademed to the right, the ends of the diadem floating behind the head. Legend in bad Greek ΒΑCΙΑΕΩC ΣΩΤΗΡΩC ΥΝΔΩΦΕΡΡΩΥ “(Coin) of the saviour king Undopherres.”

*Reverse.*—Figure of Victory winged, standing to the right, and holding in her right hand a chaplet with two ends hanging down. Legend in Bactrian characters, “*Maharajasa* (name not satisfactorily readable) *nandatasa*.” “Coin of the great king, the saviour (Indopherres?)” I have examined about twelve specimens of this type, on most of which the letters of the name are clear and well defined,

notwithstanding which, the king's name has proved an insurmountable difficulty.

The two Moosulmaun lumps of copper at the foot of the plate require no notice.

## PLATE II.

No. 1. A square copper coin of middle size, and apparently in good preservation.

*Obverse.*—The figure of Hercules naked, standing to the front, holding the club and lion's skin in his left hand, and crowning himself with his right hand; a type similar to that on the coins of Euthydemus and Demetrius. Legend on three sides βασιλεως βαΣΙΑΕΩΝ ΜΕΓΑΛΟΥ ΟΝΩΝΟΥ. “(Coin) of the great king of kings, Vonones.”

*Reverse.*—Figure of Minerva armed, half turned to the left, with a buckler on the left arm. Bactrian legend in three lines [*Maharajasa rajatirajasa mahatasa*] Balabarasa “ [coin of the great king, the king of kings, the mighty] Balbara,” the name being the only existing portion of the Bactrian legend.

No. 2. A square copper coin, of middle size, in very good preservation.

*Obverse.*—The king's head bare and diademed, to the right, with the shoulder clothed. Legend in three lines ΒΑΣΙΑΕΩΣ ΣΩΤΗΡΟΣ ΕΡΜΑΙΟΥ. “(Coin) of the saviour king Hermæus.”

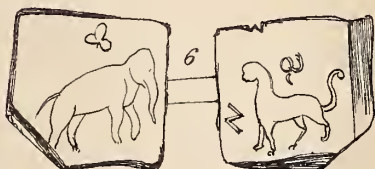
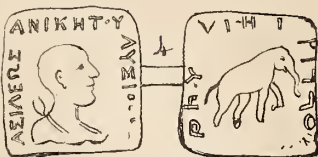
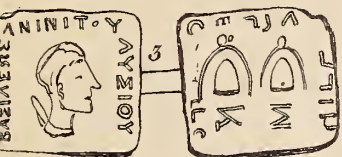
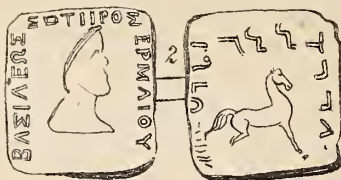
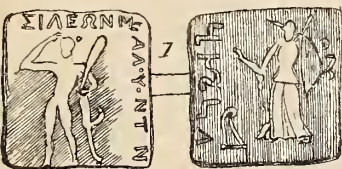
*Reverse.*—A horse moving to the right; beneath the horse a Grecian monogram composed of the letters Φ and Ι. Bactrian legend in three lines: *Maharajasa dadatasa Ermayasa*. “(Coin) of the great king, the saviour Hermæus.”

No. 3. A square copper coin, of middle size, seemingly in good order.

*Obverse.*—The king's head bare to the right, the shoulder clothed. Legend in three lines ΒΑΣΙΑΕΩΣ ΑΝΙΚΗΤΟΥ ΛΥΣΙΟΥ. “(Coin) of the invincible king Lysias.

*Reverse.*—The bonnets of the Dioscuri, surmounted by two curves—over which are two dots, most probably intended for the stars Castor and Pollux, which are seen over the bonnets of the Dioscuri on the coins of Antialcidas; these stars escaped the observation of Mr. Prinsep, of Professor Wilson, of M. Jacquet, and even of the quick-







sighted M. Raoul Rochette. Beneath the bonnets are the monogram TA. and the letter Σ. — Bactrian legend in three lines, *Maharajasa Assavihatasa Lysias* "coin of the great king, the invincible Lysias."

The bonnets of the Dioscuri which have been long familiar as the type of all the known copper coins of Antialcidas, and of some rare small silver and small copper pieces of Eucratides, now figured for the first time on the coin of Lysias; and this fact serves to strengthen the connection between Lysias and Antialcidas already observed in the numismatic coincidences of the monograms on their respective coins, as well as in their corresponding size, thickness, and make; and it may almost warrant us in supposing that those two princes were of the same dynasty as Eucratides, and that they succeeded him at no great interval.

No. 4. A square copper coin of middle size. This is a specimen of the only type of the copper coins of Lysias that was known before the acquisition of the piece just described.

*Obverse*.—Same as the preceding.

*Reverse*.—An elephant walking to the right. Bactrian legend as in the coin just described.

No. 5. A square piece of middle size; the right upper corner has been cut off, to bring it, as Captain Hay justly remarks, to some established standard weight.

*Obverse*.—The sinha, or maneless lion of India walking to the right; Grecian legend in two lines—*βασιλεως ΠΑΝΤΑΛΕΟΝΤΟΣ* " (coin) of the king Pantaleon."

*Reverse*.—A figure which has been plausibly supposed to be a Bacchante—Legend in ancient Pali (as read by Mr. James Prinsep) *Pantelavanta*, which reading is not in my opinion quite satisfactory; but I am unable to offer a better, from the want of a more perfect specimen of this coin than has yet been found.

No. 6. A square copper coin of middle size with one of the lower corners cut off.

*Obverse*.—An elephant walking to the right, over which is a symbol which may be either a Buddhist chaitya, or a representation of mount Meruee.

*Reverse*.—The sinha, or Indian lion, walking to the left; above which is a mark common to Buddhism and Brahmanism, called “Twastika,” and in the field the same symbol which has appeared on the other side.

Many coins of this type have the two animals walking in opposite directions.

### PLATE III.

The Bactrian coins in this plate are so indistinct, and apparently in such bad preservation, that I can only offer my conjectures as to their attribution.

No. 1.—A round copper coin of middle size.

*Obverse*.—A king's head, helmeted, to the left, and apparently bearded. Legend ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΥΝΔΟΦΕΡΡΟΥ. “(coin of the saviour) king (Undopherres?)”

*Reverse*.—Winged figure of Victory, walking to the left, holding out a chaplet, and with two ends hanging down. Bactrian legend imperfect.

I suppose this piece to belong to Undopherres, for the following reasons; 1st. The type of the reverse is the same figure of Victory found on all the published coins of Inodopherres, but walking in the contrary direction; 2nd. The remains of the Bactrian letters visible, seem to agree with the usual legend of that prince's coins; and, lastly, that appearance of a bearded bust in conjunction with the figure of Victory on the reverse, peculiar to Undopherres alone.

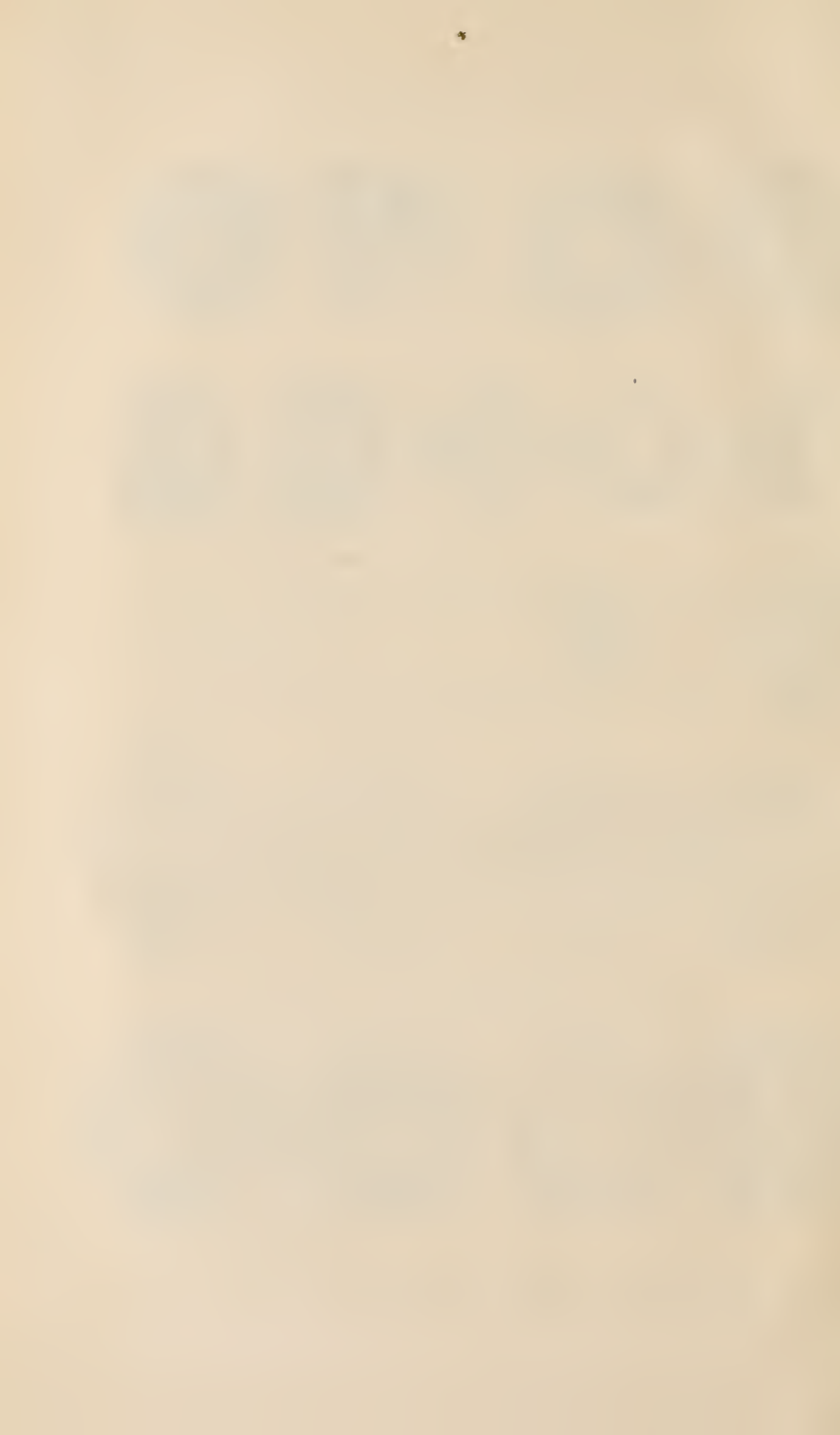
The head looks in a direction contrary to that found on all the known coins of Undopherres, but as the heads on all the existing Bactrian coins look to the right, with the single exception of one type of Menander, this can afford no proof against the supposition that this piece belongs to Undopherres.

Nos. 2, 3, 4. These appear to be coins, more or less barbarous, of the prince Kadphises, or Kadaphes, already described in my notice of Nos. 5, 6, 7, of Pl. I.

No. 5.—A square copper coin of small size, notwithstanding the curious attitude of the figure as represented in the sketch, I am







still able, from the remaining portion of the Bactrian legend, to attribute this piece to its proper owner.

*Obverse.*—Apollo standing naked, inclined to the left, his left hand resting on a bow, and his right hand holding an arrow. Greek legend in three lines βασιλεως απολλοδοτου σωτηρος, “(Coin) of the saviour king (Apollodotus).”

*Reverse.*—A tripod and a Grecian monogram in the field. Bactrian legend in three lines, *Maharajasa Apaladatasa dadatasa*—“(Coin) of the great king Apollodotus, the saviour.”

No. 6.—This is apparently a stone having a rude representation of a horse upon it.

#### *Sassanian Coins.*

Of these Sassanian coins, Nos. 6 and 7 alone have any interest attached to them, in the remarkable appearance of a human head rising from the midst of the flames of the altar, supposed by Marsden to be “the genius” of the king himself brought to view by “the performance of religious rites;” but Sir W. Ouseley suggests that “in the human head placed on a fire altar, we may discover Ormuzd, or the divinity existing amidst flames.” The former supposition however appears to me the more probable; for in “Hyde’s Religio Veterum Persarum,” we see a sculpture taken from a Persepolitan Mausoleum, representing, as described by Hyde himself, “a king standing before a fire (altar) and before the sun, as if about to worship, whose spirit or small image is seen about to ascend to heaven on a cloud” and this ascending figure is identical in dress, appearance, and attitude, with the figure of the king worshipping before the fire altar below.

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#### PLATE IV.

No. 1.—A round copper coin of large size, very much defaced, but still easily recognizable as a specimen of the common round type of Apollodotus.

*Obverse.*—Figure of Apollo naked, standing, half-turned to the right, having a quiver attached to his shoulder, and holding in his left hand an arrow inclined downwards: at his back a Grecian monogram legend in pure Greek ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΑΠΟΛΛΟΔΟΤΟΥ. “(Coin) of the saviour king Apollodotus.”

*Reverse*.—A tripod ; in the field two Bactrian letters which appear to be *ri* and *u* ; legend in Bactrian characters, *Maharajasa nandatasa Apaladatasā*. “ (Coin) of the great king, the saviour Apollo-dotus.”

No. 2.—Round copper coin of middle size, and apparently in good preservation.

*Obverse*.—Head of the king bare and diademed, to the right, with the chlamys on the shoulder. Legend—ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΕΡΜΑΙΟΥ. “ (Coin) of the saviour king Hermæus.”

*Reverse*.—The figure of Hercules naked, standing to the front ; the lion's skin hanging over his left arm, and the right hand holding his club, which rests on the ground. Legend in Bactrian characters imperfect.

The inclined attitude of the figure of Hercules, which makes Captain Hay suppose that he is leaning back against something, results in my opinion rather from the position of the left hand on the hip, which causes the body to be slightly bent. This inclined attitude, which is more or less so on different specimens, may after all only be intended to show that the figure is in the act of advancing.

No. 3.—A round copper coin of middle size, and very imperfect. This piece is in my opinion only a very bad specimen of the commonest type of the copper coins of Hermæus, of which the following is a description.

*Obverse*.—Head of the king, bare and diademed, to the right, with the chlamys on the shoulder. Legend, in fair Greek characters, ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΕΡΜΑΙΟΥ. “ (Coin) of the saviour king Hermæus.”

*Reverse*.—The Olympian Jupiter seated on a high backed chair, half-turned to the left, and extending his right hand in a dignified manner. Legend in Bactrian characters—*Maharajasa dadatasa Ermayasa*. “ (Coin) of the great king, the saviour, Hermæus.”

No. 4.—A round copper coin of middle size, apparently in good preservation.

*Obverse*.—Figure of Abundance seated on a high backed chair, slightly turned to the left: her right hand raised, and the left holding a horn of Plenty. Legend ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΑΖΟΥ. “ (Coin) of the great king of kings, Azes.”

*Reverse*.—Hercules standing, resting his left hand on his club,







with his right arm raised ; in the field the two monograms already described on the other coin of Azes, No. 3, Plate 1. Legend in Bactrian characters—*Maharajasa Rajatirajasa mahatasa Azasa*. “(Coin) of the great king, the king of kings, the mighty Azes.”

No. 5.—A square copper coin, of small size, and apparently in good preservation.

*Obverse*.—An elephant's head with the trunk turned up, to the right—under the neck a chain and bell. Legend on three sides ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΜΕΝΑΝΔΡΟΥ. “(Coin) of the saviour king Menander.”

*Reverse*.—The knotted club of Hercules erect (the sketch gives the reverse in the wrong position): in the field a monogram. Legend in Bactrian characters on three sides ; *Maharajasa dadatasa Midanasa*. “(Coin) of the great king, the saviour Menander.”

No. 6.—A round silver coin of the size of a drachm, in middling preservation.

*Obverse*.—Head of the king helmeted to the right, the ends of a diadem appearing under the helmet ; and the chlamys on the shoulder. Legend—ΒΑΣΙΛΕΩΣ ΣΩΤΗΡΟΣ ΜΕΝΑΝΔΡΟΥ. “(Coin) of the saviour king Menander.”

*Reverse*.—The Thessalian Minerva, or Minerva Promachus, walking to the left, in the attitude of hurling a thunderbolt raised in her right hand, and holding before her on her left arm the Ægis, in the middle of which is Medusa's head : in the field a Grecian monogram. Legend in Bactrian characters—*Maharajasa dadatasa Midanasa*. “(Coin) of the great king, the saviour Menander.”

No. 7.—A round copper coin of middle size, and in bad preservation. This piece, from its type and general appearance, and from the few Bactrian characters visible on the reverse, is undoubtedly a coin of Undopherres, similar to that which has already been described as No. 8 of Plate I.

No. 8.—A round copper coin of middle size, and in bad preservation. It is a piece of the king Kadphises, or Kadaphes, before described in the notice of Nos. 5, 6, and 7, of Plate I.

No. 9.—A round silver coin of the size of a drachm ; of good make, and in beautiful preservation.

*Obverse.*—Head of the king to the right, bare and diademed, the ends of the diadem hanging at the back of the head. Legend— $\text{ΒΑΣΙΛΕΩΣΣΩΤΗΡΟΣ ΕΡΜΑΙΟΥ}$ . “(Coin) of the saviour king Hermœus.”

*Reverse.*—The Olympian Jupiter seated on a chair. Legend in Bactrian characters, *Maharajasa nandatasa Ermayasa*. “(Coin) of the great king, the saviour Hermœus. A beautiful specimen of this same coin was first published by M. Raoul-Rochette in the *Journal des Savans* for October, 1835.

No. 10.—A round copper piece, of middle size. This is a coin of the anonymous prince already described in the notice of No. 4, Plate I.

No. 11.—A round copper piece, of middle size, in bad preservation. This is, with some slight variations, another specimen of the same type of Hermœus as No. 3 of the present plate, already described.

Captain Hay's opinion that there must have been several princes of the name of Hermœus is likewise held by Mr. Masson, who has created three Hermœi, and located them in an imaginary seat at Nysa, which he says was near Jelalabad; but from what has been said in the notice of the coins of Eucratides we may learn to be cautious in creating several princes of the same name, from different types and mintages of coins of the same prince.

No. 12.—A round copper coin, of small size, and in very bad order. The only word legible in the Greek legend is  $\Sigma\Omega\Theta\text{P}$  “saviour,” and I can make nothing of the marks occupying the usual place of the Bactrian legend: I incline however to attribute this coin to Azes, from its similarity in size, type, and general appearance, to many coins of that prince which I have seen.

No. 13.—A round silver coin of the size of a drachm. From the imperfect sketch of this coin. I am unable to come to any conclusion regarding it; I think however that it does not belong to any Bactrian prince; but from having no means of reference to the published coins of the Lysian, Cappadocian, and other kings, I cannot do more than record my belief that it is not a Bactrian coin: should it however prove to be so, it will be one of the most valuable acquisitions with which numismatology has been lately enriched. .

ALEXANDER CUNNINGHAM.



*Appendix to the notice of Forged Bactrian coins in No. 100.*

Since writing the above notice, I have found in Capt. E. Conolly's *Journal of Bactrian Numismatics* (about to be published) the following description of a *gold* coin of Amyntas.

"Gold coin of square form, in the collection of Lady Sale, purchased at Peshawur, in all respects similar to the copper coin of the same king, except that the figures are reversed."

The square form of this piece—a form hitherto unknown in the gold coinage of Bactria, its perfect identity in shape, in size, and in type (only reversed) with the copper coin of this kind already known, added to its having the same sloping cut in the corner which existed in Col. Stacy's copper specimen; and also in the forged silver piece of General Allard; all prove, most satisfactorily to my mind, that this square gold coin of Amyntas is likewise a forgery.

The existence of the sloping cut would alone be to me a sufficient proof of spuriousness of this new piece; the ignorant forger having been unable to complete the legend of the coin on either side. The circumstance of its having been purchased at Peshawur, where General Allard resided so long, and from whence he dispatched to France the drawing of the forged silver coin already mentioned, seems to prove that this gold piece was the production of the same hand that manufactured the spurious silver coin, purchased by General Allard, the type having been reversed with the intention of selling the new piece to General Allard, and of preventing any suspicion of its genuineness arising in the mind of the General, who had purchased the silver piece of the same type, from the same person.

The fact of the type having been reversed, shows an advance in the art of forgery, which should tend to make our countrymen still more cautious in the purchase of Bactrian coins; and more particularly of pieces in the other metals, which reproduce types already known in copper.

In the same paper Captain E. Conolly mentions a tetradrachm of Euthydemus belonging to himself, as being "*evidently cast*."

There can be no doubt therefore that this "*evidently cast*" tetradrachm of Euthydemus is a spurious piece, forged, with many others, to satisfy the demands of our countrymen in Afghanistan, whose

commendable zeal leads them to give higher prices for these coins than prudence warrants; and I fear that many will find their collections diminish in value as their numismatic knowledge increases, and enables them to detect the spurious coins they have purchased.

The goldsmiths in northern Afghanistan are, I believe, chiefly, if not all, Hindoos, who have been accustomed from their youth to the casting of gold and silver into an infinity of small forms, and to the making casts of old coins, with figures of their Deities, to be worn as charms round the neck.

I have myself seen a dozen brass casts from two different gold coins of Govinda Chundra Deva of Kanouj; one cast was remarkable in having no inscription side, two moulds of the obverse having been placed together to form a piece with the seated figure Durga on each side. These casts were made openly when deception was no object, but when 100 rupees are asked for a tetradrachm of Antimachus, and the same sum for a tetradrachm of Euthydemus, we may be certain that the same man, who would make a few casts from an ancient coin for the sake of the small profit to be obtained from one or two native customers, will now multiply casts of the genuine coins that may fall into their hands for the sake of the high prices that are given for all coins of Bactrian appearance by many of our countrymen, whose numismatic experience is not yet sufficient to distinguish a true coin from a forged one.

The forgery of coins is no novelty in India, for the high prices given for the Zodiac coins of Jehariger, soon excited the cupidity of forgers, who produced the whole of the twelve signs both in gold and in silver—no complete silver set of genuine Zodiac coins has, so far as I have been able to learn, yet been obtained.

In 1837 I saw Mr. Laing's cabinet containing nine silver Zodiacal coins, *all* of which were forgeries, stamped by a die imitated from genuine gold coins, which differ both in type and in inscription from the silver coins;—and which, joined to their hardness and crudeness of outline, are the best tests for distinguishing the forged coins from the true ones.

ALEXANDER CUNNINGHAM.

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*Note on an inscription from Oodeypore near Sagur.*

This inscription sent by Capt. Burt (Eng.) to our late Secretary, has been already noticed in the Journal, though but casually (As. Soc. Jour. p. 1056, vol. vii.) Capt. Burt having again submitted it to the Society through me, the translation is now published with the original in Devnagaree, as I have not thought it necessary to have a lithograph prepared of the facsimile, the character being well known. The errors of grammar, and incorrectness of expression occurring in the inscription are so gross, that the pundit Kamalakanta Vidyalanka declined helping me in the publication of it unless I permitted him to interline his emendations, which, as will be seen, has been done accordingly. The date is s. v. 1116, or 918 of Salivahana, or 446 of Oodyadhitya, thus establishing the era of the latter monarch, as has been already noted by Mr. H. T. Prinsep, at about A. D. 618. A misapprehension occurred however when the former notice was published, as to the name of the reigning raja, the recorder of the inscription; and especially as this record introduces us to names hitherto unknown among the rulers of Malwa, I have thought it expedient to publish Kamalakanta's acknowledgment of his error in having taken one of the attributive epithets of the reigning raja, on a hasty perusal, for his actual name. Our present raja has stood hitherto recorded as *Punya Pala*, in place of his proper appellation: had not circumstances induced the necessity of a cursory notice, the oversight would have been of course corrected as soon as made.

I have in vain endeavoured to trace the *Pavara* dynasty in ordinary books of reference; the names of the chiefs therefore recorded on this tablet are of course unknown to history. Of the three\* generations noted on this inscription, one only in the person of the reigning raja is recorded as in possession of its regal authority, and he is represented as having regained the heritage of his fathers, though the fact of their ejection from it is, for obvious reasons, but dubiously alluded to. According to Abool Fuzl (Useful Tables, p. 107) *Jitpal Chohan* recovered Malwa from *Kemalood-deen*, whom he murdered A. D. 1069. Conquered in 866, Malwa would appear from the slight notice afforded by historians during the period intervening between the years of its invasion, and the accession of the so-called *Jitpal Chohan*, to have owned but a doubtful submission to its Islamite oppressors. Reduced as we are to the meagre chronicles of historians, who belonged to the invading and aggressive party, we cannot expect to find the record of their defeats kept with any thing approach-

\* I do not include of course the fourth generation, adolescent sons of the reigning Raja.

ing to general accuracy. Of the two great authorities, Ferishta and Abool Fuzl, the former makes no mention of the early conquests of the Mussulmans towards the Nurbudha, while the latter merely enables us to conclude, that the country after having been overrun, was either left for years together unvisited by the conquerors, or was confided to the charge, perhaps, of a Hindoo tributary chief. Let what may have been the case, there is little doubt but that subsequent to the Mussulman invasion, the country must have been a prey to disorder, the efforts of the Mussulmans on the one hand striving to reap the fruits of their conquest, and on the other, of the Hindoos endeavouring to re-establish the power of the ancient dynasties, tending equally to destroy the semblance of a social system, and set at nought the efforts of the historian, did he attempt to delineate the principal events of times so troubled. As regards the certain record before us, I will merely observe that the coincidence (within nine years) of the accession of the so-called *Jitpal Chohan* to the throne of Malwa, and the exertion of regal authority in that country by the raja who in the inscription is represented as having recovered his dominions, is a valuable fact. The subsequent history of the Hindoo princes of Malwa gives us instances of scions of the royal house returning (A. D. 1192) after a long sojourn in a distant land (Kamroop), and achieving by, it would appear, their personal prowess, a restoration of their authority over their patrimonial possessions. This suffices to prove the little security which Mussulman ascendancy could have obtained in Malwa after the lapse of even more than a century from the date of our inscription; the natural inference is, that the dispossession of *Kemal-ood-deen* might have been at that earlier period still more easily effected by one who in recording his deeds, proves his hereditary right by mention of his immediate ancestors, though unable to say more of them than that, landless as they were, he won back his sovereignty in right of his descent from them. The total dissimilarity of the name of the *Chohan* Raja of A. D. 1069, and of the scion of the *Pavara* dynasty, A. D. 1060, recorded, the former by Abool Fuzl, the latter by himself, as having recovered his possessions in Malwa, is not on reflection so startling as it might at first sight appear to be, when we remember the incorrectness with which indigenous names are usually given by foreign writers, and the practice among Hindoo princes of assuming a titular appellation on accession to their throne. The coincidence of date is of course the only point of real importance.

The incorrectness of the Sanscrit in which the inscription is written, I take as a strong indication of the state of the country at the time of its composition. Fatigued by years of war and desolation, and oppressed



by the fanatic violence of the Mussulmans, the country had so ceased to afford encouragement to the cultivation of its indigenous literature, that when a son of its ancient race regained for a time his authority, there remained not a man of letters able to celebrate his restoration in fitting language.



*Literal Translation.* By Pundit SARODHA PRUSHAD.

May success attend this salutation to Ganesha, the Supreme Deity.

Hail to the husband of Parvati (Siva) the source of prosperity, who in each of his five faces is possessed of three ears, ten hands, two vehicles (the bull and the lion), the half moon on his forehead, and Ganga on his head. His person besmeared with ashes is adorned with serpents, and his throat stained blue. Half his body is rendered beautiful by Haimavati (his wife), on whose feet are golden anklets\* shining with jewels.

There was a fortunate Raja named *Suravira*, who was descended from the *Pávava* line, and was himself very learned, pious, liberal, valiant, and possessed of both *his* own and his enemy's armies. He had a son named Gondala, who was renowned—very liberal, receptacle of all noble qualities, devoted to the gods, enjoyer (of happiness), judicious, conqueror of his enemies, and famous for his own deeds.

His son, named *Arevalamathana*, who was the protector of all, and famous, and whose fame is white like the moon beams, went to *Malava* and recovered his former kingdom of *Madhyadesha*, which had formerly been governed by his ancestors, and was usurped by inimical Rajahs. There he performed many religious ceremonies, caused tanks to be made, which are filled with water, and a temple of *Siva* to be built.

He erected many divine temples, and granted *Dhánýast*† and gold to the Brahmans, and was succeeded by his son Udáyaditya the king, who was equal to his father in power.

There further (he *Arevalamathana*) who was himself an ascetic and renowned for his fame, offered sacrifices, and performed many virtuous deeds, and caused this sacred and divine temple to be erected, which is perfect and best in its kind within the whole *Jam-búdwepa*,

\* An ornamental effect.

† Corn or lands productive of corn

in the year of the Vekramáditya samvat 1116, corresponding with the Saka year 981, in the year Kaliyuga 4160, and in the same of Udayáditya 446.

During this time all his subjects avoided the usages of Kaliyuga, and paid homage to all the sacred temples, and *Jam-búdwepa* itself was the dwelling place of Bhagavati.

His son *Sálváhana* who was distinguished by all the marks (of prosperity,) has agreeably to the customary observances of kings, cherished virtue, and furnished all the temples with the furniture of worship. He was devoted to the worship of his tutelary gods, persevering, hospitality, and firm in mind. He acquired virtue and wealth, gratified his passions, and performed the religious acts in the manner as declared in *Vedas*.

Bhava, the son of Rama, who was known by the name of *Dhurma-dhyaksha*, caused this eulogy to be inscribed on the Friday, the thirteenth day of the moon's light, fortnight of the month of Chaitra, when the sun was in the sign Pisces.

This eulogy, which is placed on the walls of this temple, and is durable till the *sun* and the moon will endure, was composed by *Apajáyí*, a Brahmana, who was studious in the *Vedas* and the arts of singing, and was dear to kine as well as to Brahmans, a superior Pundit in astronomy, and respected by all.

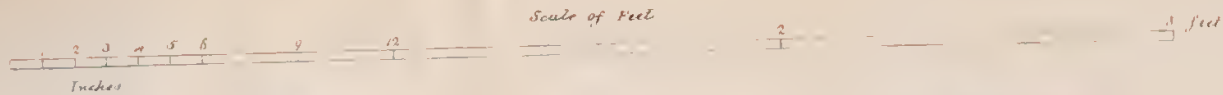
It was expected that so long as the *earth*, the sun, (Swaha) the wife of fire, the Meru (the golden mountain) and the rivers will endure, so long from generation to generation, it will show the extent of his education in *Shastras*.

If any previously point out where my errors are, I shall be pleased with him.

Success! This inscription was engraved by *Súvala*, the son of Santala Deva, and the grandson of Setasya. He was by caste Sutradhara, and the meanest and most faithful and obedient servant of the king.

- १ सिद्धिः श्रीगणेश ओं नम ओं परब्रह्मणेनमः ॥ वक्त्रपञ्चत्रिनेत्रं संसितिलकक्रितं १ मौलिगंगाप्रवाहां १ भस्मांगा नीलकण्ठं दशभुजभुजसहितं व्यालसोभासुभावं १ अङ्गिहैमवत्यां चरण  
लसद्भूपुराग्रशोभं सिंहाक्षभ्यासमेतंशु  
२ धनूपुरं माभ १ सिंहैर्वद्वाहनाभ्यां सुभमतिकरणापावृत्तिसंप्रणम्य १ श्रीमानपावारवंस्येनृपतिच विवुधमालवंराज्यं क्रित्वा विदातासूरवीरभवतिष्ठलमिदं तृपापिनाभूषणं १  
पुत्रस्तस्य ११ १२ १३ १४ १५ १६ १७  
द्वः युतो भक्तो सकलरिपुजयीस्त्रीयकीर्त्याप्रसिद्धः जन्माश्रु नः पूर्वं समाग्यप्राप्तं वंशस्य प्रसिद्धं परनृपतिष्ठतं  
३ तेभ्यः पुत्रः प्रसिद्धसकलगुणजुतंगान्दलो देवमभिः दाता मोक्षाविवेकीरिपुसकलजितं आत्मकीर्तिप्रसिद्धिः १ पातातस्यात्मजाता अरिवलमथनं पुवराज्यं च प्रापि पूर्ववंसानुव्रीर्तिलमति  
१८ १९ २० २१  
होहिमसचिन्त्यशदेवकार्यं च ह स्मिन्तडागं शैवगेहं चकार १ नानादेवालयं च च्यमपि कृतवान् धान्यहेमोर्द्विजभ्यः पुत्रयोर्ग्यनरेक्षं नृपतिरुदयादित्यमात्म  
४ तमहीमालवेमध्यदेशंगत्वा स्थानं प्रसिद्धः भवति श्रुतमतिकीर्तयो देवपौज्यं धर्मक्रित्वा तपस्यां बहुसलिलमयं चोतुं मंचाप्यकुर्जा देवालयवहुकारो १ मपि सैवालयं व  
द्वितीयं कृत्वा कीर्त्याप्रसिद्धो यजनमपि तथा धर्मकार्यं तपस्वी जम्बुद्वीपस्य सारं हारनिलयमनुं कारयामास यन्नात्  
५ बहुदिधिक्रितं सोवलजतीययमपि त्राया जम्बुद्वीपस्य सुरालयं हिंभवद्वितीयां यज्ञं जजति बहुनिविप्रगणहेमधान्यं बहुदत्तयोग्यं उदयादित्यं नरे स क्रित्वा कीर्तिचिह्नं  
२२ २३  
तदा विक्रमादित्यगतसंवत्सराः शकादित्यगताब्दाः  
६ वपि सहस्रं द्वा एकादशशतकं वंसो गनदधिकं पौद्गसच विप्रमहसं संवत् १११६ नवशत एकाशीति सकगतशालिवाहनं चान्निपषां सशके ९८१ म्मनावसुविधिधर्मका  
२४  
उदयादित्यसंगृहीतस्त्रीयवंशवत्सराः कालिगताब्द ४१६०  
७ र्ययुक्तपिशक्तियुति सास्त्रमार्गेण उदयादित्यनृपे स आत्महितार्थं च बहुविधिक्रितं कीर्ति १ गतपदं वेदसतां दधिकं चत्वारिंशद्गतेयससैर्या ४४६ पूर्वनृपगतसंस्तुतक  
२५  
लेकलिगुधर्मं हित्वा सर्वे देवालयमपूजयन् जम्बुद्वीपे भगवतीनिवासः  
८ नंप्रभृत्य भवेमपि तदा काले कालियुगधर्मं हित्वा सैव देवालयं अपुज्यतं भवेत्तानि सर्वत्रिपेणुलोपं १ तेषां गोत्रप्रशस्तस्तपो भवति दिप्तेर्निवसंति भ्रमितसर्वगणा जम्बु  
२५  
९ द्वीपभगवतीनिवासक्षितिपतिधर्माच्च पुण्यपालतियोगरधर्मप्रसिद्धशराभ श्रीवाहुदेभुरिणगतं शिष्ये १ प्रसादहृत्त्वमधिकारं समापयेत् सर्वा क्रित्वा प्रीतिमिह सपतिकरोति भुवनति  
२६  
तस्यात्मजः सकललक्षणयुतः शालिवाहनो देवालये पूजा ॥ त्वादिदत्त्वा कालव्रितये पिसमो हितार्थसिद्धिदेवतातिथिपूजानिरतो सावविमना धर्मार्थकामवेदकर्मनिशंकृतवान्  
२६  
१० शास्त्रमार्गेणोनाप्रसिद्धकीर्ति सिग्यतु औममगुरुसुरायागसवेला विहसिस्वं शिवस्याकगुणजुता सतापत्रो धर्मरता बहुदाता कोलत्रयस्य जतिमुज्यति दासतवतस्मै तत्वे श





*View of a Skull and Horns of the Wild Bull as found in the  
Forests of the Nerbudda towards the Source*





*On Bos Gaurus.*—By DR. SPILSBURY.

[Extract of a letter from Dr. Spilsbury (with plate) to Prof. W. B. O'Shaughnessy.]

"Ouseley writes me that he has sent you the skull and horns of a wild bull; now I send you a frontal and occipital view of a bovine skull, and part of horn (similar animal as delineated in November Journal) both done to the same scale; the upper one shews well the breadth and flatness of the occiput, and the whole being clear of matrix, a good notion is obtained of the size of the horn, of the teeth, breadth of skull, &c. You have a good view in the former plate.\* Now I should like to have a cognoscent account of this animal. I have perused Dr. Evans' paper on *Bos Gaurus*; Pearson on Gour, and Gyal; and Hodgson on the Bibos, all in vol. VI. for 1837, of the Asiatic Journal, without being able to come to a conclusion as to which the fossil belongs, and it is equally distinguished from the fossil Buffalo. The horn of the latter is straight, also great breadth of forehead, as shewn in the contrasted specimens No. 3 and 9 with Nos. 7, and 8, in the November Journal. Along with the fossil ones, I send you a drawing of a recent head of the wild bull, as found in our wilds, for comparison with the Sirgorjals. This specimen has the crest, as shewn in p. 16, vol. VI. but I do not think so large, but the age of the animal may alter it; see p. 18, same vol. Hardwicke's horn and forehead are delineated, which does not come so near the appearance of ours as p. 16. The fossil has no crest, and the horns are quite different; so I submit them to the cognoscent, and shall be glad to see your remarks, or those of some one conversant with Zoology upon them. I have another batch nearly ready for transportation, which will be under weigh in due season."

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Note.—I regret exceedingly that the departure of Dr. Thomson, our late Curator, prevented my having the pleasure of submitting the above extract, and the accompanying plates with remarks upon them, with which he had promised to furnish me. I trust that Dr. Spilsbury's discovery may not pass uncommented upon, and shall have great satisfaction in giving early publication to the further specimens he promises to oblige us with.



*Proceedings of the Asiatic Society.*

(Wednesday Evening, 5th August, 1840.)

The Honorable H. T. PRINSEP, Esq., Vice-President, in the chair.

The Proceedings of the last Meeting were read.

J. J. TORRENS, Esq., Rev. A. WALLIS, Mr. A. CAMPBELL, Dr. THOMSON, Major POTTINGER, and Baboo RAMGOPAUL GHOSE, proposed at the last Meeting, were ballotted for, and duly created members of the Society.

Major RAWLINSON was proposed by Lieut. C. B. CONOLLY, seconded by the Officiating Secretary.

Read letters from Messrs. EDWARD BALFOUR, Secretary to the Royal College of Surgeons, and JOHN WASHINGTON, Secretary to the Geographical Society of London. acknowledging receipt of the 2nd part of the 20th vol. of the Asiatic Researches.

*Library.*

The following books were presented:—

Transactions of the Geological Society of London, vol. 5, pt. 2nd. second series.—  
*By the Society.*

Madras Journal of Literature and Science, vol. 26.—*By the Madras Literary Society.*

Transits as observed, and Calculation of the Apparent Right Ascensions 1834.—  
*By the Lords Commissioners of the Admiralty.*

Zenith Distances observed with the Mural Circle, and Calculation of Geocentric South Polar distances, 1836, 37.—*By ditto.*

Bessel's Refraction Tables.—*By ditto.*

The Oriental Christian Spectator, No. 6. vol. 1.—*By the Editor.*

General Anniversary Meeting of the Royal Society of Northern Antiquaries at Copenhagen; in French 2 copies; in English and French, 3 copies; and in English, French, Danish, &c. 2 copies, 7 Nos.—*By the Society.*

Memoires de la Societe Royale des Antiques du Nord, 1836-37.—*By ditto.*

Annaler for Nordisk Oldkyndighed.—*By ditto.*

Bulletin de la Societe de Geographi, vol. 11th, 2d series.—*By the Geographical Society of Paris.*

Journal Asiatique, Vol. 6th 3d Series Nos. 34, 35, and 36, from October to December; 1838, Vol. 7th Nos. 37—42; January to June 1839, Vol. 8th Nos. 43—47, July to November 1839.—*By the Asiatic Society of Paris.*

L'Indicateur des Poids et Mesures Metriques instructions par M. Martin Victor Paquet.—*By the author.*

Weberdie iudirchen Verwandts chaften in Aegypischen.—*By Professor Othinar Frank.*

Gelelorte Auzeigen.—*By ditto.*

The following books were purchased:—

Naturalist's Library, Vol. 6th.

Yarrell's History of British Birds, part 17.

Annals of Natural History, No. 28.

*Literary and Antiquities.*

Read a letter from Captain McLEOD, correcting an error in the position of the coal fields in Tenasserim as published in the map of the Coal Committee in the Society's last number of the Journal.

The Officiating Secretary then laid before the Meeting a curious *pootee* (religious work) which he received from a Jain priest, mentioned in the last number of the Journal. The MSS. was dated 1508 sumbut, being about 400 years old, and was produced by the priest in support of his assertion that one of Lieut. Conolly's gems, mentioned in the above number of the Journal, gave the heads of a Buddhist teacher bearded, and with a cloth over the mouth. A figure, illuminated in the style of the old missals, was given in this Manuscript in position to support the Jotee's argument. He also attempted the explanation of the supposed monogram (No. 1. pl. I. As. Soc. Jour. No. 98) by stating that it represented the Seuthi Sthapani, or stand for supporting sacred works in use among Buddhists. Captain McLEOD inclined to consider the explanation a very fair conjecture; but the Officiating Secretary stated that the Jotee's interpretation, as well as the result of further investigation on the other gems were not published in this number, as it was wished to invite further inquiry, and also to accompany them with corrected copies of the ancient character on No. 6 gem, which had been faultily lithographed.

The Officiating Secretary called the attention of the Meeting to a paper containing Memoranda by Mr. PIDDINGTON, regarding the Law of Storms. A portion of this paper was read to the Meeting. Mr. PIDDINGTON, mentioned that he had met with difficulties in procuring the information he required, to enable him to carry out his object, from the unwillingness of some, and the want of time, &c. in the commanders of vessels, to give extracts of their logs regarding the bad weather they might have experienced on their passage. On this account Mr. PIDDINGTON wished the Society to apply to Government for the issuing of some order, making it compulsory on all commanders of vessels giving the requisite information on their entering port. Mr. PRINSEP thought that Government would not adopt any compulsory measures, as commanders of vessels were only answerable to their owners for their log books; but he doubted not that they would use every persuasive means, and make the strongest appeals to their feelings for the desired information, and even if it would be of use, a lithographed letter of thanks should be given to all who afford the required information, on their leaving port. Mr. PIDDINGTON desired it to be understood, that only those parts of their logs as related expressly to the state of the few days bad weather which vessels might have experienced, and the situation of the ship at the time, were all that were solicited. The Officiating Secretary said that he would throw all that had been urged into the form of a letter to Government, and solicit it to make an appeal to Officers and Commanders of vessels that every facility might be given to Mr. PIDDINGTON, for the accomplishment of his object.

A palm leaf Manuscript on Burmese Cosmogony, was exhibited at the Meeting by Captain McLEOD, who informed them that the Manuscript in question is the property of Dr. BAYFIELD, and that he would take an early opportunity of presenting the Society with a similar work on the arrival of his books.

Read a communication from Mr. CAMPBELL, regarding the Lepchas.

*Museum.*

Read a letter from Mrs. DENHAM, forwarding one of the balustrades of the old London bridge.

A collection of snakes preserved in spirits was presented by W. PORTEOUS, Esq.

The Officiating Secretary regretted to inform the Meeting that the Society has been deprived of the services of their Curator Dr. T. THOMSON, on account of his being ordered to proceed to the Upper Provinces. During the short time Dr. THOMSON, undertook the duties of Curator, he rearranged the specimens of natural history, &c. in the Society's Rooms, and was of very material service in other departments of the Museum.





